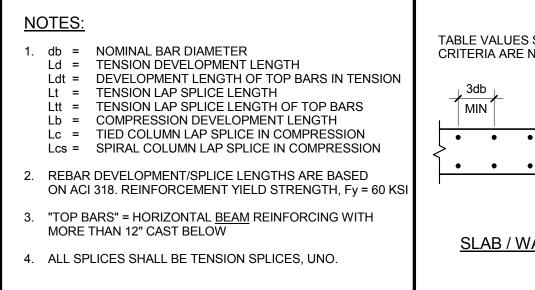


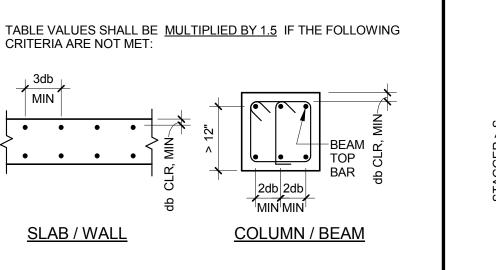
NON-COATED REINFORCING BAR DEVELOPMENT AND SPLICE LENGTHS

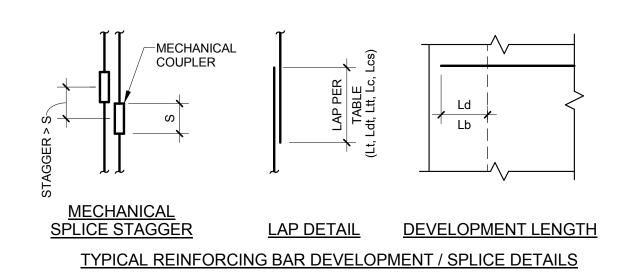
| | f 'c | = 4000 | PSI | | | f 'c : | = 5000 l | PSI | | | f 'c = | = 6000 I | PSI | | ALL C | CONCRE | TE STREN | IGTHS |
|----------|------|--------|-----|-----|----------|--------|----------|-----|-----|----------|--------|----------|-----|-----|----------|--------|----------|-------|
| BAR SIZE | Ld | Ldt | Lt | Ltt | BAR SIZE | Ld | Ldt | Lt | Ltt | BAR SIZE | Ld | Ldt | Lt | Ltt | BAR SIZE | Lb | Lc | Lcs |
| #3 | 15 | 20 | 20 | 26 | #3 | 13 | 17 | 17 | 22 | #3 | 12 | 16 | 16 | 21 | #3 | 9 | 12 | 12 |
| #4 | 19 | 25 | 25 | 33 | #4 | 17 | 23 | 23 | 29 | #4 | 16 | 21 | 21 | 28 | #4 | 11 | 13 | 12 |
| #5 | 24 | 32 | 32 | 41 | #5 | 22 | 29 | 29 | 38 | #5 | 20 | 26 | 26 | 34 | #5 | 14 | 16 | 15 |
| #6 | 29 | 38 | 38 | 50 | #6 | 26 | 34 | 34 | 44 | #6 | 24 | 32 | 32 | 41 | #6 | 17 | 19 | 17 |
| #7 | 42 | 55 | 55 | 71 | #7 | 38 | 50 | 50 | 65 | #7 | 34 | 45 | 45 | 58 | #7 | 20 | 22 | 20 |
| #8 | 48 | 63 | 63 | 82 | #8 | 43 | 56 | 56 | 73 | #8 | 39 | 51 | 51 | 66 | #8 | 22 | 25 | 23 |
| #9 | 54 | 71 | 71 | 92 | #9 | 48 | 63 | 63 | 82 | #9 | 44 | 58 | 58 | 75 | #9 | 25 | 29 | 26 |
| #10 | 60 | 78 | 78 | 102 | #10 | 54 | 71 | 71 | 92 | #10 | 49 | 64 | 64 | 83 | #10 | 28 | 32 | 29 |
| #11 | 66 | 86 | 86 | 112 | #11 | 59 | 77 | 77 | 100 | #11 | 54 | 71 | 71 | 92 | #11 | 31 | 35 | 31 |

EPOXY COATED REINFORCING BAR DEVELOPMENT AND SPLICE LENGTHS

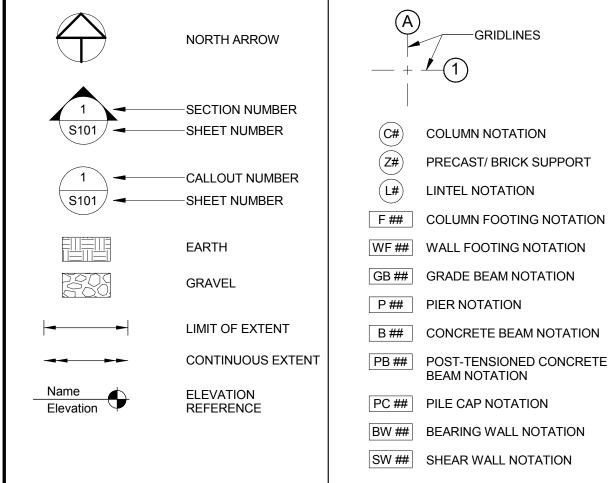
| | f 'c : | = 4000 I | PSI | | | f 'c | = 5000 | PSI | | | f'c: | = 6000 | PSI | | ALL (| CONCRE | TE STREN | NGTHS |
|----------|--------|----------|-----|-----|----------|------|--------|-----|-----|----------|------|--------|-----|-----|----------|--------|----------|-------|
| BAR SIZE | Ld | Ldt | Lt | Ltt | BAR SIZE | Ld | Ldt | Lt | Ltt | BAR SIZE | Ld | Ldt | Lt | Ltt | BAR SIZE | Lb | Lc | Lcs |
| #3 | 22 | 29 | 29 | 38 | #3 | 20 | 26 | 26 | 34 | #3 | 18 | 24 | 24 | 31 | #3 | 9 | 12 | 12 |
| #4 | 29 | 38 | 38 | 50 | #4 | 26 | 34 | 34 | 44 | #4 | 24 | 32 | 32 | 41 | #4 | 11 | 13 | 12 |
| #5 | 36 | 47 | 47 | 61 | #5 | 32 | 42 | 42 | 55 | #5 | 30 | 39 | 39 | 51 | #5 | 14 | 16 | 15 |
| #6 | 43 | 56 | 56 | 73 | #6 | 39 | 51 | 51 | 66 | #6 | 35 | 46 | 46 | 60 | #6 | 17 | 19 | 17 |
| #7 | 63 | 82 | 82 | 107 | #7 | 56 | 73 | 73 | 95 | #7 | 51 | 67 | 67 | 87 | #7 | 20 | 22 | 20 |
| #8 | 72 | 94 | 94 | 122 | #8 | 64 | 84 | 84 | 109 | #8 | 59 | 77 | 77 | 100 | #8 | 22 | 25 | 23 |
| #9 | 81 | 106 | 106 | 137 | #9 | 72 | 94 | 94 | 122 | #9 | 66 | 86 | 86 | 112 | #9 | 25 | 29 | 26 |
| #10 | 89 | 116 | 116 | 151 | #10 | 80 | 104 | 104 | 136 | #10 | 73 | 95 | 95 | 124 | #10 | 28 | 32 | 29 |
| #11 | 98 | 128 | 128 | 166 | #11 | 88 | 115 | 115 | 149 | #11 | 80 | 104 | 104 | 136 | #11 | 31 | 35 | 31 |

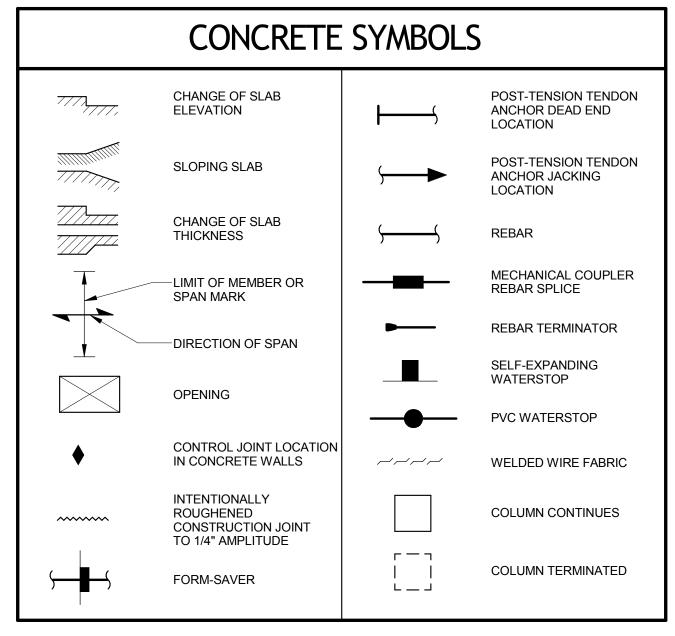






MISCELLANEOUS SYMBOLS





| | STEEL M | NEMBERS | |
|--|---------|-----------|-----------|
| SHAPE | SECTION | ELEVATION | PLAN VIEW |
| W-SHAPE BEAM | | | |
| CHANNEL | | | |
| ANGLE | | | |
| DOUBLE ANGLE | LLV LLH | | |
| HOLLOW STRUCTURAL SECTION -RECTANGULAR | | | |
| HOLLOW STRUCTURAL SECTION -CIRCULAR (PIPE) | | | |
| OPEN WEB STEEL JOIST | 7 L | | |

STRUCTURAL DRAWINGS ABBREVIATIONS

NOT APPLICABLE

NUMBER

NOMINAL

NEAR SIDE

ON CENTER

OVERHEAD

OPENING

OPPOSITE

ORIGINAL

PERIMETER

PLYWOOD

PRELIMINARY

PROJECTION

PRESTRESSED

POST-TENSIONED

ROOF DRAIN

REFERENCE

SLOPE

SCHEDULE

SQUARE FEET

SLAB-ON-GRADE

SPACES, SPACE

SPECIFICATIONS

STAINLESS STEEL

SHORT SLOTTED HOLE

SECTION

SHEET SIMILAR

SQUARE

STANDARD

STIFFENER

STRUCTURAL

SYMMETRICAL

TEMPERATURE THROUGH

TRANSVERSE

VERTICAL

WITHOUT

WOOD

970-263-5016

WIDE FLANGE

WEEP HOLE

WORK POINT

WEIGHT, STRUCTURAL T

WELDED WIRE FABRIC

EXTRA STRONG (PIPE)

DOUBLE EXTRA STRONG (PIPE)

TOP AND BOTTOM

TOP OF GRADE BEAM

MECHANICAL TENSION BUTT SPLICE

PREFABRICATED WOOD I-JOIST

UNDERWRITERS' LABORATORY INC.

UNLESS NOTED OTHERWISE

ULTRA-SONIC TEST

STEEL

TOP OF

ROUGH OPENING

PREFABRICATED

PERMANENT

PERPENDICULAR

PARTIAL JOINT PENETRATION

POUNDS PER LINEAL FOOT

PREPARATION, PREPARE

POUNDS PER SQUARE FOOT

POUNDS PER SQUARE INCH

PARALLEL STRAND LUMBER

REINFORCEMENT, REINFORCE

ROOFTOP MECHANICAL UNIT

NOT TO SCALE

OUTSIDE FACE

OVERFLOW DRAIN

OVERSIZED HOLE

PRE-MANUFACTURED OPEN WEB JOIST

OUTSIDE DIAMETER



CANTILEVER CENTER TO CENTER COLD FORMED **CENTER OF GRAVITY** CAST-IN-PLACE CONTROL JOINT OR CONSTRUCTION JOINT COMPLETE JOINT PENETRATION CENTERLINE CLEARANCE, CLEAR CONCRETE MASONRY UNIT CONCRETE CONNECTION CONSTRUCTION **CONTINUOUS** CONTR CONTRACTOR CENTER CENTERED **CUBIC FEET** CUBIC INCH CUBIC YARD DEFORMED BAR ANCHOR DEGREE DEMOLITION, DEMOLISH DEPT DEPARTMENT DETAIL DIAMETER

PREFAB DIAGONAL DIAPHRAGM DIMENSION DOWN DITTO DEEP DRAWING DOWELS EACH EACH FACE **EXPANSION JOINT ELEVATION** ELECTRICAL RTU **ENCL ENCLOSURE ENGR ENGINEER** EDGE OF DECK SECT EDGE OF JOIST EOS EDGE OF SLAB EQPT **EQUIPMENT** EACH SIDE **EACH WAY EXISTING EXPANSION** EXTERIOR SSLT FLOOR DRAIN STD FOUNDATION STIFF STL FLANGE STRUC FLOOR FAR SIDE T & B FEET FOOTING FTGD FOOTING DRAIN FIELD VERIFY GALVANIZED GALV GRADE BEAM

GLUED LAMINATED TIMBER (GLULAM)

GROUND

HORIZ

GIRDER TRUSS

HORIZONTAL

HIGH POINT

HIP TRUSS

INSIDE FACE

INFORMATION

INSULATION

INTERIOR JOIST BEARING

INCH

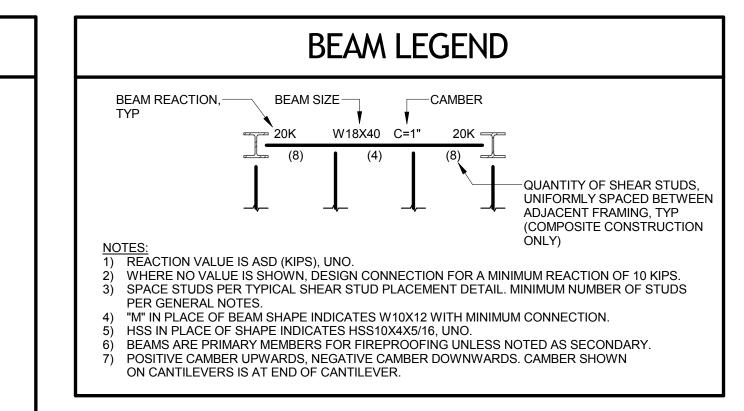
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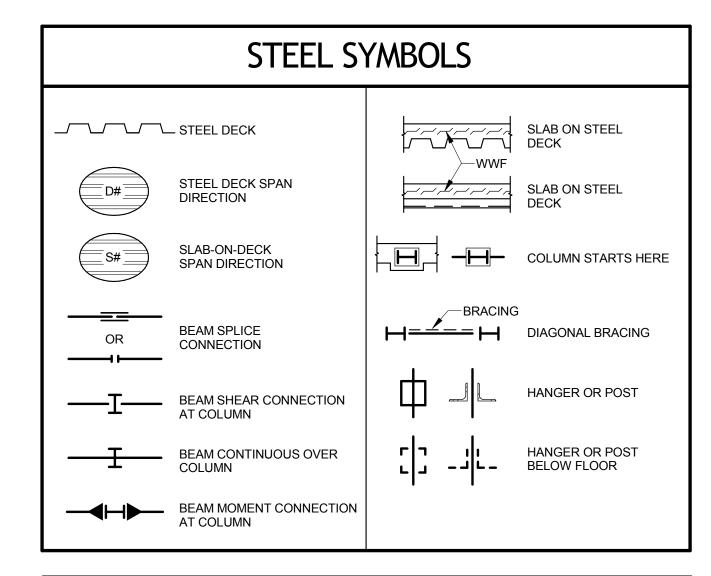
INSIDE DIAMETER

HEADED ANCHOR STUD

HOLLOW STRUCTURAL SECTION

HEATING, VENTILATION, AIR CONDITIONING





| | CONNECTORS | |
|-------------------------------------|------------|--------------|
| CONNECTOR | SECTION | END/ALT VIEW |
| CAST-IN ANCHOR ROD | ‡ | |
| POST-INSTALLED MECHANICAL ANCHOR | | |
| POST INSTALLED ADHESIVE ANCHOR | | |
| HEADED STUD | | |
| BOLT | | |

| S-001 ABBREVIATIONS AND SYMBOLS S-002 GENERAL NOTES S-003 SPECIAL INSPECTION NOTES AND TABLES S-004 LOAD MAPS S-005 AXONOMETRICS S-101 FOUNDATION PLAN S-201 LEVEL 1 - SLAB ON GRADE S-202 LEVEL 2 - FRAMING PLAN S-202A LEVEL 2 - PT / REINFORCING PLAN S-210 ENLARGED PLANS S-211 ENLARGED PLANS S-211 ENLARGED PLANS S-212 ENLARGED PLANS S-212 ENLARGED PLANS S-301 BUILDING SECTIONS AND ELEVATIONS S-301 BUILDING SECTIONS AND ELEVATIONS S-401 TYPICAL CONCRETE/FDN DETAILS S-402 FOUNDATION SECTIONS S-403 FOUNDATION SECTIONS S-404 PILE / PILE CAP DETAILS / SCHEDULES S-411 TYPICAL COLUMN AND WALL DETAILS S-421 TYPICAL COLUMN DETAILS S-421 TYPICAL POST-TENSIONED SLAB DETAILS S-431 TYPICAL POST-TENSIONED BLAM DETAILS S-432 POST TENSIONED BEAM SCHEDULE S-433 MILD REINFORCED BEAM SCHEDULE S-431 TYPICAL STEEL SECTIONS S-500 TYPICAL CMU SECTIONS AND DETAILS S-501 TYPICAL CMU SECTIONS AND DETAILS S-502 TYPICAL CMU SECTIONS AND DETAILS S-503 TYPICAL CMU SECTIONS AND DETAILS S-504 STEEL SECTIONS AND DETAILS S-505 STEEL SECTIONS AND DETAILS S-506 STEEL SECTIONS AND DETAILS S-507 MISSEDEAN SOURD SECTIONS AND DETAILS S-508 STEEL SECTIONS AND DETAILS S-509 STEEL SECTIONS AND DETAILS | SHEET# | SHEET NAME |
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| S-204 NOT USED S-204A NOT USED | | |

4/10/2014

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501









PROJECT LEADER/ARCHITECT:



2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 SUSTAINABLE ARCHITECTURE + ENGINEERING

| AC | DENDUM #1 FOR CONST | TRUCTION | |
|---|------------------------------|---|---|
| Drawing Title ABBREVIATIONS AND SYMBOLS | Project Title PARKING GARAGE | Project Number 12.1042 Building Number Bldg-39 | OFFICE OF FACILITIES MANAGEMENT |
| Approved for Design Concept: John Bartman John.Bartman@va.gov | Checked By: Drawn By: | Drawing Number S-001 | VA Project Number 575-206 Department of |

Checked By: Drawn By: 5 — UU | Department of Veterans Affairs 4/10/2014

THE CONTRACTOR SHALL SUBMIT FOR APPROVAL PRODUCT DATA FOR THE SPECIFIC ITEMS LISTED BELOW. CONTRACTOR SHALL NOT USE PRODUCTS OTHER THAN THOSE

MANUFACTURER'S TRADE NAMES AND NUMBERS USED HEREIN ARE ONLY TO IDENTIFY COLORS, FINISHES, TEXTURES, AND PATTERNS AS A BASIS OF DESIGN. PRODUCTS OF AUTHORIZED EQUAL MANUFACTURER'S EQUIVALENT TO COLORS. FINISHES. TEXTURES. AND PATTERNS OF MANUFACTURERS LISTED THAT MEET REQUIREMENTS OF TECHNICAL SPECIFICATIONS IN EVERY RESPECT MAY BE ACCEPTABLE WITH SUBMITTAL OF A COMPLETED SUBSTITUTION REQUEST CONTAINING ALL PRODUCT DATA, TESTING AND ACTUAL SAMPLES, AND UPON APPROVAL IN WRITING BY CONTRACTING OFFICER.

SUBMIT HARD COPIES OR ELECTRONIC VERSIONS OF PRODUCT DATA. FOR HARD COPY OPTION, SUBMIT A MINIMUM OF TWO COPIES OF PRODUCT DATA TO THE STRUCTURAL ENGINEER FOR REVIEW (ONE COPY SHALL BE RETAINED BY THE STRUCTURAL ENGINEER). FOR ELECTRONIC OPTION, SUBMIT PRODUCT DATA IN

> FIBER REINFORCEMENT FOR CONCRETE CONCRETE CURING COMPOUND CONCRETE JOINT SEALANT WATER STOPS MASONRY JOINT REINFORCEMENT **EXPANSION ANCHORS** ADHESIVE ANCHORS NON-SHRINK GROUT

FOUNDATIONS

ADDENDUM #1

FOUNDATION EXCAVATIONS AND SOIL RELATED WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT NUMBER AD135005 PREPARED BY TERRACON DATED APRIL 4, 2013.

FOUNDATIONS HAVE BEEN DESIGNED BASED ON ASSUMED ALLOWABLE CAPACITIES INDICATED BELOW. CONTRACTOR SHALL ENGAGE A LICENSED GEOTECHNICAL ENGINEER TO REVIEW THE SOIL CONDITIONS AT THE SITE AS NECESSARY TO CONFIRM THE ALLOWABLE CAPACITIES PRIOR TO PLACEMENT OF THE FOUNDATIONS. CONFIRMATION OF THE ACCEPTABILITY OF THE SOILS SHALL BE REPORTED IN WRITING TO THE STRUCTURAL ENGINEER.

IF ACTUAL ALLOWABLE CAPACITIES ARE FOUND TO BE LESS THAN THE ASSUMED VALUES, THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY AND SHALL NOT PROCEED WITH FOUNDATION CONSTRUCTION WITHOUT REVIEW BY THE STRUCTURAL ENGINEER.

DESIGN ALLOWABLE PILE LOADS:

COMPRESSION: 100 KIPS TENSION: 23 KIPS LATERAL: 10 KIPS

FOR PUPOSES OF BIDDING, ESTIMATED PILE TIP ELEVATION IS 4568.00 FEET. ACTUAL PILE TIP ELEVATION TO BE DETERMINED BY SPECIFIED TESTING PROGRAM

AND DRIVING CRITERIA. SEE SPECIFICATIONS. THE CONTRACTOR MAY PROPOSE AN ALTERNATE EQUIVALENT DRIVEN PILE SYSTEM FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD. NO DRIVEN PILE SYSTEM OTHER THAN THOSE SPECIFIED SHALL BE USED WITHOUT REVIEW AND APPROVAL BY THE ENGINEER OF RECORD.

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FOUNDATIONS AND SOILS RELATED WORK SHALL BE INSPECTED BY A LICENSED GEOTECHNICAL ENGINEER. WRITTEN FIELD REPORTS SHALL BE FORWARDED TO THE STRUCTURAL ENGINEER AS SOON AS THEY BECOME AVAILABLE.

FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION, WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT, SHALL BE REPORTED TO THE STRUCTURAL ENGINEER AND GEOTECHNICAL ENGINEER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.

EXCAVATIONS FOR SPREAD FOOTINGS, COMBINED FOOTINGS, CONTINUOUS FOOTINGS, GRADE BEAMS, AND MAT FOUNDATIONS SHALL BE CLEANED AND HAND TAMPED TO UNIFORM SURFACE AND SHALL BE PROTECTED AND MAINTAINED UNIFORM UNTIL CONCRETE IS PLACED.

SEE SPECIFICATION SECTION 316200 - DRIVEN PILES FOR MORE INFORMATION

DO NOT BACKFILL AGAINST BELOW-GRADE CONCRETE (OR MASONRY) WALLS UNTIL THE CONCRETE (OR MASONRY ASSEMBLAGE) HAS REACHED ITS 28-DAY COMPRESSIVE STRENGTH. WHERE BACKFILL IS REQUIRED ON BOTH SIDES OF BELOW-GRADE WALLS, BACKFILL

EVENLY ON EACH SIDE OF EACH WALL TO PREVENT UNBALANCED SOIL LOADS

AGAINST THE WALL. UNLESS NOTED OTHERWISE, DO NOT BACKFILL AGAINST BASEMENT WALLS UNTIL THE BASEMENT AND GROUND FLOOR SLABS HAVE BEEN COMPLETELY INSTALLED AND REACHED THEIR 28-DAY COMPRESSIVE STRENGTH AND ALL FLOOR FRAMING AND SLAB CONNECTIONS TO THE BASEMENT WALLS HAVE BEEN COMPLETELY INSTALLED.

WHERE BASEMENT WALLS OCCUR, BACKFILL EVENLY ON ALL SIDES OF THE BUILDING TO PREVENT UNBALANCED SOIL LOADS AGAINST THE BASEMENT STRUCTURE, UNLESS NOTED OTHERWISE.

REINFORCED CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318) AND COMMENTARY

MIXING. TRANSPORTING. AND PLACING OF CONCRETE SHALL CONFORM TO THE LATEST EDITION OF THE SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) READY-MIXED CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C94. IN CASE OF A DISCREPANCY, THE PLANS AND SPECIFICATIONS SHALL GOVERN.

CEMENT SHALL CONFORM TO ASTM C150, TYPE I, UNO. FLY ASH SHALL CONFORM TO ASTM C618, CLASS C OR F. THE RATIO OF THE AMOUNT (BY WEIGHT) OF FLY ASH TO TOTAL CEMENTITIOUS MATERIALS IN THE MIX SHALL NOT

NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C33. WATER-REDUCING ADMIXTURES SHALL CONFORM TO ASTM C494. AIR-ENTRAINING ADMIXTURES SHALL CONFORM TO ASTM C260 AND SHALL BE CERTIFIED BY THE MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES. CALCIUM CHLORIDE ADMIXTURES OR ADMIXTURES CONTAINING MORE THAN

0.1 PERCENT CHLORIDE IONS SHALL NOT BE USED. IN COLD WEATHER CONDITIONS, MIXING, PLACING, FINISHING, CURING AND PROTECTION OF CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 306R, COLD WEATHER CONCRETING.

IN HOT WEATHER CONDITIONS, MIXING, PLACING, FINISHING, CURING AND PROTECTION OF CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ACI 305R, HOT WEATHER CONCRETING.

USE OF CONSTRUCTION JOINTS AT LOCATIONS OTHER THAN THOSE INDICATED ON THE DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. SLUMP FOR PUMPED CONCRETE SHALL BE MEASURED AT POINT OF DISCHARGE. NORMAL WEIGHT CONCRETE SHALL BE USED IN THE FOLLOWING AREAS AND SHALL HAVE THE PROPERTIES AS SHOWN BELOW:

FOUNDATIONS, PILE CAPS, AND MATS COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI MAXIMUM SLUMP: 4 INCHES MINIMUM CEMENTITIOUS MATERIALS CONTENT: 470 LB./CU. YD. (USE TYPE II SULFATE RESISTANT CEMENT) MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP). MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48 MAXIMUM COARSE AGGREGATE SIZE: 1 1/2 INCHES

AIR CONTENT: N/A FOUNDATION WALLS

COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI MAXIMUM SLUMP: 4 INCHES MINIMUM CEMENTITIOUS MATERIALS CONTENT: 470 LB./CU. YD. (USE TYPE II SULFATE RESISTANT CEMENT) MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48 MAXIMUM COARSE AGGREGATE SIZE: 1 INCH

AIR CONTENT: N/A RETAINING WALLS AND CURBS/SIDEWALKS/SLABS EXPOSED TO DE-ICERS COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI

MAXIMUM SLUMP: 4 INCHES MINIMUM CEMENTITIOUS MATERIALS CONTENT: 517 LB./CU. YD. (USE TYPE II SULFATE RESISTANT CEMENT) MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.45 MAXIMUM COARSE AGGREGATE SIZE: 1 INCH

AIR CONTENT: 6.0% +/- 1% SLABS ON GRADE

COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI MAXIMUM SLUMP: 4 INCHES MINIMUM CEMENTITIOUS MATERIALS CONTENT: 470 LB./CU. YD. (USE TYPE II SULFATE RESISTANT CEMENT) MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48

MAXIMUM COARSE AGGREGATE SIZE: 1 INCH AIR CONTENT: 6% +/- 1% HIGH RANGE WATER REDUCING ADMIXTURE AND FIBER REINFORCING REQUIRED

COLUMNS

COMPRESSIVE STRENGTH (28 DAYS): 6000 PSI MAXIMUM SLUMP: 4 INCHES MINIMUM CEMENTITIOUS MATERIALS CONTENT: 661 LB./CU. YD. (USE TYPE II SULFATE RESISTANT CEMENT FOR LEVEL 1 COLUMNS) MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP) MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.45

MAXIMUM COARSE AGGREGATE SIZE: 3/4 INCH AIR CONTENT: N/A STRUCTURAL CONCRETE POST TENSIONED BEAMS AND SLAB SYSTEMS

COMPRESSIVE STRENGTH (28 DAYS): 5000 PSI MAXIMUM SLUMP: 4 INCHES MINIMUM CEMENTITIOUS MATERIALS CONTENT: 589 LB./CU. YD. MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.40 MAXIMUM COARSE AGGREGATE SIZE: 3/4 INCH

AIR CONTENT: 6% +/- 1% CORROSION INHIBITOR ADMIXTURE REQUIRED - 3 GAL / CUBIC YARD MICROSILICA REQUIRED - ADD ALTERNATE OPTION HIGH-RANGE WATER REDUCING ADMIXTURE REQUIRED

SLABS ON STEEL DECK

AIR CONTENT: N/A

COMPRESSIVE STRENGTH (28 DAYS): 4000 PSI MAXIMUM SLUMP: 4 INCHES MINIMUM CEMENTITIOUS MATERIALS CONTENT: 470 LB./CU. YD. MAXIMUM SLUMP FOR CONCRETE CONTAINING HIGH-RANGE WATER-REDUCING ADMIXTURE: 8 INCHES (AFTER ADMIXTURE IS ADDED TO CONCRETE WITH 2 TO 4 INCH SLUMP) MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO: 0.48 MAXIMUM COARSE AGGREGATE SIZE: 1 INCH

POST-TENSIONED CONCRETE

POST-TENSIONING SHOP DRAWINGS, INCLUDING PLANS AND DETAILS, SHALL BE SUBMITTED AND REVIEWED BY THE ARCHITECT/ENGINEER PRIOR TO STARTING FABRICATION. ALL POST-TENSIONED CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI AT THE TIME OF INITIAL STRESSING. PROVIDE EXTRA TEST CYLINDERS TO SUBSTANTIATE CONCRETE STRENGTH PRIOR TO POST-TENSIONING. AT CONTRACTOR'S OPTION MATURITY METERS MAY BE ALLOWED. SUBMIT PRODUCT DOCUMENTATION FOR REVIEW PRIOR TO CONSTRUCTION. POST-TENSIONING REINFORCING SHALL BE 1/2 INCH DIAMETER, UNBONDED MONOSTRAND

SYSTEM, LOW RELAXATION, 270 KSI HIGH-TENSILE WIRE STRAND CONFORMING TO ASTM A416.

STRESS TENDONS AFTER PLACEMENT OF CONCRETE AS FOLLOWS: STANDARD CONCRETE -WITHIN 72 HOURS; CONCRETE WITH MICROSILICA - WITHIN 48 HOURS. STRESS TENDONS IN THE FOLLOWING ORDER:

> STRESS 50% OF SLAB TENDONS STRESS 100% OF SLAB TEMPERATURE TENDONS STRESS 50% OF BEAM TENDONS STRESS 50% OF GIRDER TENDONS / WHERE APPLICABLE / STRESS REMAINING SLAB TENDONS STRESS REMAINING BEAM TENDON STRESS REMAINING OF GIRDER TENDONS / WHERE APPLICABLE /

TENDONS THAT DO NOT SPAN THE ENTIRE LENGTH OF THE SLAB MUST BE ANCHORED AT SLAB MID-DEPTH AND SHALL NOT BE STRESSED THROUGH THE TOP OF THE SLAB. ENCASE POST-TENSIONING TENDONS IN WATERPROOF POLYETHYLENE PLASTIC SHEATHING OF 25 MILS MINIMUM THICKNESS. PROVIDE SUFFICIENT STRENGTH TO PREVENT UNREPAIRABLE DAMAGE DURING FABRICATION, TRANSPORTATION, INSTALLATION, PLACEMENT, AND TENSIONING. REPAIR ANY DAMAGED SHEATHING SECTION PER THE POST-TENSIONING INSTITUTE (PTI) RECOMMENDATIONS.

PROVIDE ENCAPSULATED TENDONS AT LOCATIONS EXPOSED TO THE ELEMENTS/WATER. POST-TENSION FORCES SHOWN ON PLANS AND SCHEDULES ARE EFFECTIVE FORCES. THE POST-TENSIONING SUPPLIER SHALL DETERMINE THE NUMBER OF TENDONS BASED ON THESE EFFECTIVE FORCES. INSTALL TENDONS WITH A PARABOLIC DRAPE. HOLD SLAB MAIN TENDONS IN THEIR DESIGNED POSITIONS AS SHOWN IN THE DRAWINGS WITH CHAIRS, SUPPORT BARS, AND SLAB BOLSTERS. MAINTAIN TENDON VERTICAL POSITION WITHIN 1/8 INCH. DO NOT USE TEMPERATURE TENDONS OR MILD REINFORCING FOR SUPPORT OF

CONFORM TO ACI 318 FOR DETAILED DESIGN OF TENDONS AND END ANCHORAGES, AND THE CALCULATION OF LOSSES DUE TO CREEP, SHRINKAGE, STRESS RELAXATION, ANCHORAGE SLIP, AND FRICTION. PLACE CONCRETE ONLY AFTER THE POST-TENSIONING TENDONS AND REINFORCEMENT HAVE BEEN INSPECTED AND APPROVED. CONTINUOUS INSPECTION AND RECORDING OF ELONGATION IS REQUIRED DURING ALL STRESSING OPERATIONS. DO NOT CUT TENDON ENDS UNTIL THE ENTIRE SLAB HAS BEEN SATISFACTORILY STRESSED AND THE ENGINEER HAS GIVEN APPROVAL.

ALL INSERTS, SLEEVES, AND OPENINGS SHALL BE CAST-IN-PLACE. DRILLED AND POWER-DRIVEN FASTENERS ARE PROHIBITED EXCEPT FOR - DRILLED IN ANCHORS WITH 1 INCH MAXIMUM PENETRATION ARE ALLOWED AS FOLLOWS: AT BOTTOM OF SLAB NEXT TO BEAMS AND EXTENDING ONE QUARTER SPAN; AND AT TOP OF SLAB WITHIN THE MIDDLE THIRD SPAN

THE POST-TENSIONED SLABS ARE DESIGNED BASED ON TENDONS BEING CONTINUOUS BETWEEN EDGES OF SLABS AS SHOWN ON THE DRAWINGS. SUBMIT ANY ADDITIONAL INTERMEDIATE STRESSING JOINTS REQUIRED BY THE CONTRACTOR TO THE STRUCTURAL ENGINEER OF RECORD BEFORE STARTING CONSTRUCTION. THESE LOCATIONS MAY REQUIRE ADDITTIONAL REINFORCING. LOCATE CONSTRUCTION JOINTS IN POST-TENSIONED SLABS AT THE QUARTER POINTS OF THE SLAB SPAN WHERE THE STRANDS ARE AT MID-DEPTH FOR PROPER ANCHORAGE.

SHORING/RE-SHORING

THE SHORING AND/OR RE-SHORING DESIGN FOR CONCRETE FRAME SYSTEMS IS THE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY SHORING FOR SLABS, BEAMS, AND GIRDERS SHALL BE ADEQUATE TO CARRY THE TOTAL WEIGHT OF THE SLAB-BEAM-GIRDER SYSTEM AND ANY TEMPORARY CONSTRUCTION LOADS TO BE IMPOSED ON THE STRUCTURAL SYSTEM. SHORING FOR A LEVEL SHALL NOT BE REMOVED UNTIL THE CONCRETE AT THAT LEVEL HAS ATTAINED THE SPECIFIED COMPRESSIVE STRENGTH (F'C). REMOVAL OF SHORING AND/OR RESHORING SHALL NOT CAUSE OVERSTRESSING OF ANY STRUCTURAL ELEMENTS.

CONCRETE SLABS ON GRADE SLABS ON GRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION (ACI 302.1R). PLACE CONCRETE IN A MANNER SO AS TO PREVENT SEGREGATION OF THE MIX. DELAY FLOATING AND TROWELING OPERATIONS UNTIL THE CONCRETE HAS LOST SURFACE WATER SHEEN OR ALL FREE WATER. DO NOT SPRINKLE FREE CEMENT ON

THE SLAB SURFACE. PROVIDE CURING OF CONCRETE SLABS IMMEDIATELY AFTER FINISHING USING A SPRAYED ON DISSIPATING-RESIN LIQUID CURING COMPOUND CONFORMING TO ASTM C309, UNLESS NOTED OTHERWISE, ALL SCUFFS OR ABRASIONS TO THE CURING MEMBRANE SHALL BE RECOATED DAILY. OTHER CURING METHODS MAY BE USED WITH APPROVAL BY THE STRUCTURAL ENGINEER.

SLABS ON GRADE SHALL BE PLACED TO ACHIEVE THE FOLLOWING MINIMUM TOLERANCES:

> OVERALL VALUES: FF = 25LOCAL VALUES: FF = 20

THE MINIMUM LOCAL AREA SHALL BE ANY BAY DEFINED BY COLUMN LINES. UNLESS SHOWN OR NOTED OTHERWISE, PROVIDE CONTROL OR CONSTRUCTION JOINTS IN SLABS-ON-GRADE AT A MAXIMUM SPACING OF 36 TIMES THE SLAB THICKNESS. PROVIDE JOINTS AT ALL COLUMN LOCATIONS. LOCATE JOINTS TO ELIMINATE RE-ENTRANT CORNERS AND TO CREATE SQUARE OR RECTANGULAR SECTIONS WITH MAXIMUM LONG SIDE TO SHORT SIDE RATIO OF 1.5 TO 1.

CONTROL JOINTS IN SLABS ON GRADE SHALL NOT RECEIVE JOINT FILLER MATERIAL UNLESS NOTED OTHERWISE.

CONCRETE SLABS ON METAL DECK

UNLESS INDICATED OTHERWISE ON THE DRAWINGS, CONCRETE SLABS ON METAL DECK SHALL BE PLACED AS REQUIRED TO MAINTAIN A CONSTANT SLAB [THICKNESS].

CONTRACTOR SHALL ALLOW FOR THE DEFLECTION OF THE FLOOR ASSEMBLY DUE TO THE WET WEIGHT OF THE CONCRETE WHEN CALCULATING CONCRETE QUANTITIES AND SHALL INCLUDE THE COST OF ALL REQUIRED SLAB-ON-DECK CONCRETE IN THE

PRIOR TO PLACEMENT OF CONCRETE SLABS ON METAL DECK, THE CONTRACTOR SHALL CAREFULLY REVIEW THE ELEVATIONS OF THE STRUCTURAL STEEL FRAMING. INCLUDING CAMBERED MEMBERS, FOR CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY DISCREPANCIES (SUCH AS IMPROPER CAMBER, IMPROPER STEEL ELEVATIONS, ETC.) IMMEDIATELY AND SHALL NOT BEGIN CONCRETE PLACEMENT WITHOUT PRIOR REVIEW BY THE STRUCTURAL ENGINEER.

ACTUAL CONCRETE SLAB THICKNESS SHALL NOT BE LESS THAN THE INDICATED NOMINAL THICKNESS AT ANY LOCATION. IF ANY CONDITION IS DISCOVERED THAT WOULD PREVENT PLACEMENT OF CONCRETE TO THE NOMINAL THICKNESS: CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY AND SHALL NOT PROCEED WITH CONCRETE PLACEMENT WITHOUT PRIOR REVIEW BY THE STRUCTURAL ENGINEER.

SLABS ON METAL DECK SHALL RECEIVE A SMOOTH TROWEL FINISH, AND BE PLACED TO ACHIEVE THE FOLLOWING MINIMUM TOLERANCES:

OVERALL VALUES: LOCAL VALUES:

FF = 25 FF = 20

PLACE CONCRETE IN A MANNER SO AS TO PREVENT SEGREGATION OF THE MIX. DELAY FLOATING AND TROWELING OPERATIONS UNTIL THE CONCRETE HAS LOST SURFACE WATER SHEEN OR ALL FREE WATER. DO NOT SPRINKLE FREE CEMENT ON THE SLAB SURFACE.

PROVIDE CURING OF CONCRETE SLABS IMMEDIATELY AFTER FINISHING USING A SPRAYED ON DISSIPATING-RESIN LIQUID CURING COMPOUND CONFORMING TO ASTM C309. ALL SCUFFS OR ABRASIONS TO THE CURING MEMBRANE SHALL BE RECOATED DAILY. OTHER CURING METHODS MAY BE USED WITH APPROVAL BY THE STRUCTURAL ENGINEER.

NON-SHRINK GROUT

WRITTEN INSTRUCTIONS.

GROUT SHALL BE A NON-METALLIC. SHRINKAGE RESISTANT (WHEN TESTED IN ACCORDANCE WITH THE LATEST EDITION OF ASTM C827 OR CRD-C621), PREMIXED, NON-CORROSIVE, NON-STAINING PRODUCT CONTAINING PORTLAND CEMENT, SILICA SANDS, SHRINKAGE COMPENSATING AGENTS AND FLUIDITY IMPROVING COMPOUNDS. GROUT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'C) OF 5,000 PSI IN

<u>WATERSTOPS</u> SELF-EXPANDING STRIP WATER STOPS SHALL BE VOLCLAY WATERSTOP-RX 101 UNLESS NOTED OTHERWISE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S

REINFORCING STEEL

REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615 AND SHALL HAVE A MINIMUM YIELD STRENGTH OF 60,000 PSI. REINFORCING BAR DETAILING, FABRICATING, AND PLACING SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING STANDARDS: ACI 301, ACI 315, ACI 318 AND

ACI DETAILING MANUAL (SP66). UNLESS A GREATER AMOUNT OF COVER IS INDICATED ON THE DRAWINGS, PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER OVER REINFORCEMENT AS FOLLOWS: CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3 INCHES #6 BARS AND LARGER EXPOSED TO EARTH OR WEATHER: 2 INCHES #5 BARS AND SMALLER EXPOSED TO EARTH OR WEATHER: 1-1/2 INCHES

BEAM AND COLUMN TIES, STIRRUPS AND SPIRALS: 1-1/2 INCHES ELEVATED SLAB BARS NOT EXPOSED TO EARTH OR WEATHER: 3/4 INCH REINFORCING STEEL SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT UNLESS INDICATED ON THE CONTRACT DOCUMENTS OR APPROVED BY THE STRUCTURAL ENGINEER.

WHERE LAP SPLICE LENGTHS ARE NOT SHOWN OR NOTED, PROVIDE A CLASS "B" LAP. ALL 90 DEGREE AND 180 DEGREE BENDS SHOWN ON THE DRAWINGS SHALL BE STANDARD HOOKS, UNLESS NOTED OTHERWISE.

PROVIDE CORNER BARS OF SAME SIZE AND SPACING AS HORIZONTAL BARS AT CORNERS OF ALL WALLS AND GRADE BEAMS. LAP SPLICE CORNER BARS WITH STRAIGHT BARS.

UNLESS OTHERWISE SHOWN OR NOTED, PROVIDE 2-#5 BARS (ONE EACH FACE) AROUND UNFRAMED OPENINGS IN CONCRETE WALLS AND GRADE BEAMS. PLACE BARS PARALLEL TO THE SIDES OF THE OPENING AND EXTEND 24" BEYOND CORNERS.

REINFORCING STEEL WHICH IS TO BE WELDED SHALL CONFORM TO ASTM A706. WELDING OF REINFORCING STEEL, WHEN APPROVED BY THE STRUCTURAL ENGINEER, SHALL CONFORM TO THE LATEST EDITION OF AMERICAN WELDING SOCIETY STANDARD D1.4. ELECTRODES FOR SHOP AND FIELD WELDING OF REINFORCING STEEL SHALL CONFORM TO ASTM A233, CLASS E90XX.

EPOXY-COATED REINFORCING STEEL

<u>WELDABLE REINFORCING STEEL</u>

EPOXY COATED REINFORCING STEEL SHALL CONFORM TO ASTM A775 AND SHALL BE USED ONLY WHERE SHOWN OR NOTED ON THE DRAWINGS.

WELDED WIRE FABRIC

WELDED WIRE FABRIC SHALL BE SMOOTH WIRE FABRIC CONFORMING TO ASTM A185. FABRIC SHALL BE SUPPLIED IN FLAT SHEETS AND LAPPED A MINIMUM OF ONE SPACE

WELDED WIRE FABRIC SHALL BE PLACED AS FOLLOWS, UNLESS NOTED OTHERWISE: SLABS ON METAL DECK: 3/4 INCH DOWN FROM TOP OF SLAB.

FIBER REINFORCEMENT

FIBER REINFORCEMENT SHALL BE 3/4" LONG, VIRGIN (NON-RECYCLED) NYLON OR POLYPROPYLENE FIBERS, INTRODUCED INTO THE CONCRETE MIX AT THE BATCH PLANT, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. DOSAGE SHALL BE 1.5 POUNDS PER CUBIC YARD OF CONCRETE.

CONCRETE TESTING

MAKE ONE SET OF TEST CYLINDERS IN ACCORDANCE WITH ASTM C31 FOR EACH DAY'S POUR AND FOR EACH 100 CUBIC YARDS. EACH SET SHALL INCLUDE ONE SPECIMEN TESTED AT 7 DAYS, 2 SPECIMENS TESTED AT 28 DAYS AND ONE SPECIMEN RETAINED IN RESERVE TO BE TESTED AT THE DIRECTION OF THE STRUCTURAL ENGINEER. SPARE CYLINDER MAY BE DISCARDED 90 DAYS AFTER CASTING UNLESS DIRECTED OTHERWISE BY THE STRUCTURAL ENGINEER. THIS SET OF TEST CYLINDERS SHALL BE PROTECTED AGAINST FREEZING

WHEN THE AMBIENT TEMPERATURE IS EXPECTED TO FALL BELOW 40 DEGREES DURING THE COURSE OF A CONCRETE POUR OR SUBSEQUENT CURING PROCESS. AN ADDITIONAL SET OF CONCRETE TEST CYLINDERS SHALL BE MADE AND TESTED. THESE CYLINDERS SHALL BE STORED IMMEDIATELY ADJACENT TO. AND CURED UNDER THE SAME CONDITIONS AS THE BUILDING CONCRETE. SPECIAL CURING BOXES ARE NOT PERMITTED FOR THESE TEST CYLINDERS.

FORWARD COPIES OF TEST RESULTS TO THE ARCHITECT, STRUCTURAL ENGINEER, READY-MIX SUPPLIER AND CONTRACTOR WITHIN 24 HOURS AFTER TESTING.

CONCRETE MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST EDITION OF THE BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES (ACI 530).

CONCRETE MASONRY SHALL CONSIST OF HOLLOW UNITS CONFORMING TO THE REQUIREMENTS OF ASTM C90, WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1900 PSI. CONCRETE MASONRY ASSEMBLAGES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (F'M) OF 1,500 PSI AT 28 DAYS

MORTAR SHALL BE TYPE S PROPORTIONED IN ACCORDANCE WITH ASTM C270. GROUT FOR REINFORCED MASONRY SHALL BE PROPORTIONED IN ACCORDANCE WITH ASTM C476, COARSE AND FINE AGGREGATES SHALL CONFORM TO ASTM C404, USE COARSE GROUT FOR ALL GROUTING EXCEPT HIGH-LIFT POURS DEFINED BY ACI 530-05 TABLE 1.16.1. WHERE FINE GROUT SHALL BE USED.

PROVIDE 9-GAUGE GALVANIZED STEEL WIRE JOINT REINFORCEMENT IN ALL MASONRY CONSTRUCTION. REINFORCEMENT SHALL BE CONTINUOUS AND BE LAPPED EIGHT INCHES AT SPLICES. CUT REINFORCEMENT AT ALL CONTROL AND EXPANSION JOINTS. SPACE REINFORCEMENT AT 8" ON CENTER FOR PARAPETS AND BELOW GROUND FLOOR ELEVATION. ELSEWHERE SPACE REINFORCEMENT AT 16 INCHES ON CENTER.

BEAMS AND LINTELS SHALL BEAR A MINIMUM OF 8 INCHES ONTO SUPPORTING MASONRY, UNLESS NOTED OTHERWISE. BEARING FOR ALL BEAMS, LINTELS, JOISTS, ETC. SHALL BE GROUTED SOLID A MINIMUM OF ONE COURSE (8 INCHES) BELOW BEARING ELEVATION, UNLESS NOTED OTHERWISE

EXPANSION ANCHORS

OTHERWISE.

STRUCTURAL ENGINEER, UNO.

EXPANSION ANCHORS SHALL BE HILTI "KWIK BOLT TZ" OR AN EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER, UNO.

ANCHOR FINISH SHALL BE CARBON STEEL FOR INTERIOR EXPOSURES AND AISI 316 STAINLESS STEEL FOR EXTERIOR AND BELOW GRADE EXPOSURES, UNO. ANCHORS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS BY INSTALLERS TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

ANCHORS SHALL NOT BE INSTALLED IN CONCRETE OR MASONRY UNTIL IT HAS ATTAINED ITS SPECIFIED MINIMUM 28 DAY COMPRESSIVE STRENGTH.

ADHESIVE ANCHORS FOR SOLID SUBSTRATES ADHESIVE ANCHORS FOR SOLID SUBSTRATES SHALL BE HILTI "HIT-HY 200" OR AN

GROUT SOLID ALL BELOW-GRADE CMU.

EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER, UNO. ANCHORS SHALL BE ASTM A36 THREADED RODS FOR INTERIOR EXPOSURES AND AISI 316 STAINLESS STEEL FOR EXTERIOR AND BELOW GRADE EXPOSURES, UNO. ANCHORS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS BY INSTALLERS TRAINED BY THE MANUFACTURER'S REPRESENTATIVE. ADHESIVE ANCHORS SHALL NOT BE INSTALLED IN CONCRETE OR MASONRY UNTIL IT HAS ATTAINED ITS SPECIFIED MINIMUM 28 DAY COMPRESSIVE STRENGTH. MINIMUM EMBEDMENT DEPTH SHALL BE 8 BOLT DIAMETERS UNLESS NOTED

ADHESIVE ANCHORS FOR HOLLOW SUBSTRATES ADHESIVE ANCHORS FOR HOLLOW SUBSTRATES SHALL BE HILTI "HIT-HY 70" WITH HILTI "HIT-SC" SCREEN TUBE OR AN EQUIVALENT SUBSTITUTE APPROVED BY THE

ANCHORS SHALL BE ASTM A36 THREADED RODS FOR INTERIOR EXPOSURES AND AISI 316 STAINLESS STEEL FOR EXTERIOR AND BELOW GRADE EXPOSURES, UNO. NICHORS SHALL BE INSTALLED IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS BY INSTALLERS TRAINED BY THE MANUFACTURER'S REPRESENTATIVE. MASTIC COATING

MASTIC COATING FOR PROTECTION OF INDICATED ITEMS SHALL BE BITUMASTIC 50 COAL TAR MASTIC BY CARBOLINE OR EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER. INSTALL AT LOCATIONS INDICATED ON DRAWINGS.

UNLESS NOTED OTHERWISE, APPLY MASTIC TO A COATING THICKNESS OF 18 MILS. PROVIDE FULL COVERAGE OVER ITEMS INDICATED TO RECEIVE COATING.

STRUCTURAL STEEL

STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE ANSI/AISC 360 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION WITH AMENDMENTS, AND THE AISC 303 CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, LATEST EDITION WITH AMENDMENTS.

STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, 50 KSI. STRUCTURAL STEEL PLATES AND ROLLED SHAPES OTHER THAN WIDE-FLANGE SHAPES SHALL CONFORM TO ASTM A36, UNLESS NOTED OTHERWISE.

STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500, GRADE B. STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, GRADE B.

ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 36, UNLESS NOTED

STEEL STUDS SHALL CONFORM TO ASTM A108.

BOLTED CONNECTIONS SHALL CONFORM TO THE SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, APPROVED BY THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS OF THE ENGINEERING FOUNDATION. BOLTED CONNECTIONS FOR STRUCTURAL STEEL MEMBERS SHALL BE MADE WITH 3/4" DIAMETER A325 BOLTS, UNLESS NOTED OTHERWISE. BOLTED CONNECTIONS SHALL BE TIGHTENED TO THE SNUG TIGHT CONDITION, EXCEPT BOLTED CONNECTIONS IN BRACE ELEMENTS ARE TO BE FULLY PRETENSIONED WITH CLASS A FAYING SURFACES

WELDING PROCEDURES SHALL CONFORM TO THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY'S STRUCTURAL WELDING CODE FOR STEEL ANSI/AWS D1.1. WELDED CONNECTIONS USING ASTM A992 STEEL AS A BASE METAL SHALL BE MADE WITH E70XX LOW HYDROGEN ELECTRODES. UNLESS OTHERWISE SHOWN OR NOTED ON THE DRAWINGS, OTHER WELDED CONNECTIONS MAY BE MADE WITH STANDARD E70XX ELECTRODES.

STRUCTURAL STEEL OTHER THAN GALVANIZED STEEL SHALL BE SHOP-PRIMED WITH A RUST-INHIBITING PRIMER, UNLESS NOTED OTHERWISE ON THE DRAWINGS. CONTRACTOR SHALL VERIFY PRIMER IS COMPATIBLE WITH FINISH COAT SYSTEM SPECIFIED BY THE ARCHITECT. COORDINATE FINISH PAINTING REQUIREMENTS

WITH THE ARCHITECT. STRUCTURAL STEEL NOTED TO BE GALVANIZED SHALL BE HOT-DIP GALVANIZED IN CONFORMANCE WITH ASTM A123.

DO NOT PAINT OR GALVANIZE THE FOLLOWING SURFACES: 1. SURFACES TO BE WELDED. SURFACES TO RECEIVE BOLTED SLIP-CRITICAL CONNECTIONS. 3. SURFACES TO RECEIVE SHEAR STUD CONNECTIONS. 4. SURFACES TO RECEIVE SPRAYED-ON FIREPROOFING.

ALL ABRASIONS TO GALVANIZED SURFACES OR SURFACES TO RECEIVE AN ARCHITECTURAL FINISH COAT SHALL BE TOUCHED-UP AFTER ERECTION IS COMPLETE. FOR PAINTED STEEL, USE A PRIMER EQUIVALENT TO THE SHOP PAINT. FOR GALVANIZED STEEL, USE A ZINC-RICH COLD-GALVANIZING PAINT.

DESIGN CONNECTIONS NOT SHOWN IN ACCORDANCE WITH THE ASD SPECIFICATION AND MANUAL OF STEEL CONSTRUCTION. UNLESS NOTED OTHERWISE ON THE DRAWINGS, DESIGN BEAM CONNECTIONS NOT SHOWN. TO SUPPORT A MINIMUM OF A 10 KIP SHEAR REACTION. PROVIDE NO LESS THAN 2 BOLTS IN ANY SINGLE LINE OF BOLTS, UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS.

PROVIDE L4X4X1/4 FRAMED OPENINGS FOR ALL ROOF PENETRATIONS 12 INCHES OR LARGER ALONG ANY SIDE, UNLESS LARGER FRAMING IS INDICATED, REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR PENETRATIONS. COORDINATE FRAMED OPENING SIZES AND LOCATIONS WITH THE MECHANICAL AND PLUMBING

GALVANIZE ALL EXPOSED STEEL

STEEL ROOF DECK

PROVIDE AND ERECT STEEL DECK IN ACCORDANCE WITH THE LATEST EDITION OF THE STEEL DECK INSTITUTE'S SPECIFICATIONS AND CODE OF STANDARD PRACTICE.

DECK MANUFACTURER SHALL PROVIDE ALL ROOF DECK ACCESSORIES, INCLUDING CLOSURES. SUPPLEMENTARY FRAMING, AND SUMP PANS, WHETHER OR NOT SUCH ITEMS ARE DETAILED ON THE CONTRACT DOCUMENTS. FASTEN ROOF DECK TO STEEL SUPPORTS AS INDICATED ON THE DRAWINGS.

PERFORM WELDING IN ACCORDANCE WITH ANSI/AWS D1.3. ROOF DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION.

PROVIDE STEEL ROOF DECK WITH FINISH AS INDICATED ON THE DRAWINGS.

COMPOSITE STEEL BEAMS COMPOSITE BEAM SHEAR CONNECTORS SHALL BE NELSON STUD TYPE S3L AS MANUFACTURED BY THE NELSON STUD WELDING COMPANY, OR AN EQUIVALENT SUBSTITUTE APPROVED BY THE STRUCTURAL ENGINEER

STUDS SHALL BE MANUFACTURED OF COLD-DRAWN STEEL CONFORMING TO ASTM A108. STUDS SHALL BE 5/8" DIAMETER X 5 1/2 INCHES LONG @ 24" OC, UNLESS NOTED OTHERWISE. STUD DESIGN HAS BEEN BASED ON AN ULTIMATE SHEAR CAPACITY OF 17.7 KIPS PER STUD.

COMPOSITE STEEL BEAMS HAVE BEEN DESIGNED TO ALLOW INSTALLATION OF THE SLAB CONCRETE IN AN UNSHORED CONDITION UNLESS NOTED OTHERWISE.

STEEL FLOOR DECK

ACCORDANCE WITH ASTM A924 G90.

PROVIDE AND ERECT STEEL DECK IN ACCORDANCE WITH THE LATEST EDITION OF THE STEEL DECK INSTITUTE'S SPECIFICATIONS AND CODE OF STANDARD PRACTICE.

DECK MANUFACTURER SHALL PROVIDE ALL FLOOR DECK ACCESSORIES, SUCH AS EDGE FORMS, CLOSURES, FILLERS AND POUR STOPS FOR A COMPLETE INSTALLATION. WHETHER OR NOT SUCH ITEMS ARE DETAILED ON THE CONTRACT DOCUMENTS.

FASTEN FLOOR DECK TO STEEL SUPPORTS AS INDICATED ON THE DRAWINGS. PERFORM WELDING IN ACCORDANCE WITH ANSI/AWS D1.3.

STEEL FLOOR DECK IS INTENDED TO BE INSTALLED IN AN UNSHORED CONDITION UNLESS NOTED OTHERWISE. DECK SUPPLIER SHALL REVIEW ALL SPAN CONDITIONS AND CONFIRM THAT THE SUPPLIED PRODUCT IS SUFFICIENT TO SAFELY SUPPORT THE WET WEIGHT OF CONCRETE AND ASSOCIATED CONSTRUCTION LIVE LOADS WITHOUT

FLOOR DECK UNITS SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION.

PROVIDE INTERIOR STEEL FLOOR DECK WITH FINISH AS INDICATED ON THE DRAWINGS.

PROVIDE FLOOR DECK SUPPORTING EXTERIOR SLABS WITH A GALVANIZED FINISH IN

ARCHITECTURAL PRECAST PANELS

SUPPLIER OF ARCHITECTURAL PRECAST PANELS IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF THE PANELS AND CONNECTIONS. SUBMIT PRELIMINARY REACTIONS AND DETAILS TO ARCHITECT/ENGINEER FOR REVIEW PRIOR TO FINAL SHOP DRAWINGS

STEEL REQUIRED TO TRANSMIT THE GRAVITY AND/OR LATERAL LOADS TO THE STRUCTURE NOT DETAILED ON THE STRUCTURAL DRAWINGS IS THE RESPONSIBILITY

OF THE PRECAST SUPPLIER TO DESIGN AND DETAIL. PRECAST PANELS TO BE DESIGNED FOR VEHICULAR IMPACT LOADING PER ASCE 7. GRAVITY CONNECTIONS SHALL NOT BE MADE TO BEAMS, JOISTS, OR JOIST GIRDERS WITHOUT PERMISSION OF THE STRUCTURAL ENGINEER, UNLESS SPECIFICALLY

SHOWN ON THE DRAWINGS. CONNECTIONS TO TRANSMIT LATERAL LOADS TO THE STRUCTURE SHALL BE MADE ONLY TO A COLUMN OR THE TOP FLANGE OF A BEAM. CONNECTIONS TO TRANSMIT LATERAL LOADS TO THE STRUCTURE SHALL NOT BE MADE TO THE UNBRACED TOP OR BOTTOM OF BEAMS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

PRECAST CONCRETE CONNECTIONS SHOWN ON DRAWINGS SHALL BE PROVIDED AS SHOWN, BY THE STEEL FABRICATOR. IF DETAILS NEED TO BE ADJUSTED BASED ON AN INDIVIDUAL PRECAST MANUFACTURER'S DETAILS, THE MANUFACTURER MUST INFORM THE STEEL FABRICATOR PRIOR TO FABRICATION OF THE STEEL. CHANGES REQUIRED AFTER THE STEEL IS FABRICATED SHALL BE THE SOLE RESPONSIBILITY OF THE PRECAST MANUFACTURER (INCLUDING ENGINEERING, MATERIAL AND INSTALLATION).

PRECAST CONCRETE SPANDREL PANELS SHALL NOT BE ERECTED AT ANY LEVEL PRIOR TO PLACEMENT OF FLOOR OR ROOF DECK ON THAT LEVEL. GLAZED FACADE

WALL BRACES THE GLAZING SYSTEM.

SUPPLIER OF GLAZING SYSTEM IS RESPONSIBLE FOR THE DESIGN, DETAILING AND INSTALLATION OF THE GLAZING SYSTEM.

STEEL REQUIRED TO TRANSMIT THE GRAVITY AND/OR LATERAL LOADS TO THE

STRUCTURE NOT DETAILED ON THE STRUCTURAL DRAWINGS IS THE RESPONSIBILITY OF THE GLAZING SYSTEM SUPPLIER TO DESIGN, DETAIL AND INSTALL. CONNECTIONS TO TRANSMIT LATERAL LOADS TO THE STRUCTURE SHALL NOT BE MADE TO THE BOTTOM FLANGES OF BEAMS, BOTTOM CHORDS OF JOIST GIRDERS OR BOTTOM CHORDS OF JOISTS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. WHERE KNEE WALLS ARE PRESENT UNDER THE GLAZING SYSTEM THE VERTICAL MULLIONS SHALL NOT STOP AT THE TOP OF THE KNEE WALL BUT SHALL EXTEND DOWN TO THE STRUCTURE AND THE DESIGN SHALL NOT ASSUME THE KNEE

CONTRACTOR SHALL COORDINATE ELEVATOR PITS, SHAFTS, SLAB OPENINGS, FRAMING LOCATIONS, GUIDE RAIL SUPPORTS, DIVIDER BEAMS, HOIST BEAMS AND SUMP PITS WITH ELEVATOR SUPPLIER PRIOR TO CONSTRUCTION AS REQUIRED FOR PROPER INSTALLATION AND OPERATION.

COORDINATE ANY REQUIRED STRUCTURAL MODIFICATIONS WITH THE STRUCTURAL ENGINEER PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY STRUCTURAL ELEMENTS.

THE BUILDING STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2012 INTERNATIONAL BUILDING CODE.

SEE LOAD MAPS FOR FLOOR LOADING CRITERIA. SNOW LOAD DESIGN DATA

> GROUND SNOW LOAD (PG) = 30 PSF LOW-SLOPE ROOF SNOW LOAD (PF) = 26 PSF

THERMAL FACTOR (CT) = 1.2 SNOW LOAD IMPORTANCE FACTOR (IS) = 1.0

SNOW EXPOSURE FACTOR (CF) = 1.0

WIND LOAD DESIGN DATA BASIC WIND SPEED (RISK CATEGORY II) = 115 MPH WIND EXPOSURE = C

WIND DESIGN PRESSURE (P) = VARIES WITH HEIGHT AND LOCATION

EARTHQUAKE DESIGN DATA

SHORT PERIOD SPECTRAL RESPONSE (SS) = 0.287 1-SECOND SPECTRAL RESPONSE (S1) = 0.067 SEISMIC IMPORTANCE FACTOR (IE) = 1.0

OCCUPANCY CATEGORY = II SEISMIC DESIGN CATEGORY = B SITE CLASSIFICATION = D SHORT PERIOD SPECTRAL RESPONSE COEFFICIENT (SDS) = 0.306 1-SECOND SPECTRAL RESPONSE COEFFICIENT (SD1) = 0.107

BASIC STRUCTURAL SYSTEM / SEISMIC RESISTING SYSTEM: MOMENT-RESISTING FRAME / ORDINARY REINFORCED CONCRETE MOMENT FRAME ANALYSIS PROCEDURE UTILIZED = EQUIVALENT LATERAL FORCE PROCEDURE

RESPONSE MODIFICATION COEFFICIENT (R) = 3.0 SEISMIC RESPONSE COEFFICIENT (CS) = 0.089

Grand Junction VA Medical Center

2121 North Avenue Grand Junction, CO 81501





PROJECT LEADER/ARCHITECT:

317.800.6388

DESIGN

2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 WWW.GUIDONDESIGN.COM SUSTAINABLE ARCHITECTURE + ENGINEERING

ADDENDUM #1 FOR CONSTRUCTION rawing Title) OFFICE OF GENERAL NOTES 12.1042 FACILITIES Building Number PARKING GARAGE MANAGEMENT BIdg-39pproved for Design Concept: A Project Number rawing Number Grand Junction VA MC 575-206 John Bartman John.Bartman@va.gov Department of 970-263-5016 Veterans Affairs

STEEL CONSTRUCTION SPECIAL INSPECTION REQUIREMENTS FREQUENCY REFERENCE CODE (IBC) INSPECTION REQUIREMENTS STANDARD REFERENCE INSPECTION APPLICABLE ASTM MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, MATERIAL SPECS. NUTS AND WASHERS. VERIFY IDENTIFICATION MARKS CONFORM PERIODIC AISC 360 TO ASTM STANDARDS SPECIFIED IN THE SECTION A3.3 APPROVED CONSTRUCTION DOCUMENTS. MANUFACTURER'S CERTIFICATE OF PERIODIC ___ COMPLIANCE INSPECTION OF HIGH-STRENGTH BOLTING AISC 360 SECTION M2.5 PERIODIC 1704.3.3 BEARING-TYPE CONNECTIONS SLIP-CRITICAL CONNECTIONS CONTINUOUS AISC 360 SECTION M2.5 1704.3.3 MATERIAL VERIFICATION OF STRUCTURAL STEEL. VERIFY INDENTIFICATION MARKS CONFORM ASTM A6 OR A568 1708.4 TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS. MANUFACTURER'S CERTIFIED MILL TEST ASTM A6 OR A568 1708.4 REPORTS MATERIAL VERIFICATION OF WELD FILLER MATERIALS. AISC 360 SECTION A3.5 VERIFY INDENTIFICATION MARKS CONFORM ____ TO AWS SPECIFICATION INDICATED IN THE APPROVED CONSTRUCTION DOCUMENTS. MANUFACTURER'S CERTIFICATE OF INSPECTION OF WELDING: A. STRUCTURAL STEEL AWS D1.1 (UNO) 1704.3.1 COMPLETE AND PARTIAL PENETRATION CONTINUOUS GROOVE WELDS MULTI-PASS FILLET WELDS SINGLE-PASS FILLET WELDS (GREATER CONTINUOUS THAN 5/16") SINGLE-PASS FILLET WELDS (NOT PERIODIC TO EXCEED 5/16") DECK WELDS PERIODIC AWS D1.3 REINFORCING STEEL AWS D1.4; ACI 318: 3.5.2 VERIFICATION OF WELDABILITY OF PERIODIC REINFORCING STEEL OTHER THAN REINFORCING STEEL RESISTING CONTINUOUS FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL REINF. CONCRETE SHEAR WALLS, AND SHEAR REINFORCEMENT. SHEAR REINFORCEMENT. CONTINUOUS OTHER REINFORCING STEEL. PERIODIC INSPECTION OF STEEL FRAME JOINT DETAILS FOR 1704.3.2 COMPLIANCE WITH APPROVED CONSTRUCTION A. BRACING AND STIFFENER DETAILS. PERIODIC

PERIODIC

PERIODIC

| | INSPECTION REQUIREMENTS | FREQUENCY OF INSPECTION | REFERENCE STANDARD | CODE (IBC) REFERENCE |
|-----|---|----------------------------------|---|--------------------------|
| 1. | INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSED TENDONS, AND PLACEMENT. | PERIODIC | ACI 318: 3.5, 7.1-7.7 | 1913.4 |
| 2. | INSPECTION OF REINFORCING STEEL WELDING. | SEE IBC TABLE 1704.3, ITEM 5B | AWS D1.4, ACI 318: 3.5.2 | _ |
| 3. | INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO AND DURING PLACEMENT OF CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED. | CONTINUOUS | | 1911.5 |
| 4. | VERIFYING USE OF REQUIRED DESIGN CONCRETE MIX. | PERIODIC | ACI 318: CH. 4, 5.2-5.4 | 1904.2.2, 1913.2, 1913.3 |
| 5. | AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE. | CONTINUOUS | ASTM C31, ASTM C172, ACI 318: 5.6, 5.8 | 1913.10 |
| 6. | INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES. | CONTINUOUS | ACI 318: 5.9, 5.10 | 1913.6, 1913.7, 1913.8 |
| 7. | INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES. | PERIODIC | ACI 318: 5.11-5.13 | 1913.9 |
| 8. | INSPECTION OF PRESTRESSED CONCRETE. A. APPLICATION OF PRESTRESSING FORCES. | CONTINUOUS | ACI 318: 18.20 | |
| 9. | ERECTION OF PRECAST CONCRETE MEMBERS. | PERIODIC | ACI 318: CH. 16 | |
| 9. | INSPECTION OF EMBEDED ITEMS (FOR PRECAST ATTACHMENT) PRIOR TO CAST-IN-PLACE CONCRETE PLACEMENT | CONTINUOUS | ACI 318: CH. 16 | |
| 11. | VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS. | PERIODIC | ACI 318: 6.2 | |
| 12. | INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED. | PERIODIC | ACI 318: 6.1.1 | _ |

| | | FREQUENCY | RE | FERENCE FOR CR | RITERIA |
|------------------------------------|--|--|---------------------|---|--------------------------------|
| | INSPECTION TASK | OF INSPECTION | 2006 IBC SECTION | ACI 530/ ASCE 5/ TMS 402 | ACI 530.1/ ASCE6/ TMS 602 |
| 1. | FROM THE BEGINNING OF MASONRY CONSTRUCTION, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE: A. PROPORTIONS OF SITE PREPARED MORTAR. B. CONSTRUCTION OF MORTAR JOINTS. C. LOCATION OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES. | PERIODIC PERIODIC PERIODIC | | | 2.6A 3.3B 3.4, 3.6A |
| 2. | THE INSPECTION PROGRAM SHALL VERIFY: A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS. B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION. C. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT. D. WELDING OF REINFORCING BARS. E. PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40 DEG F) OR HOT WEATHER (TEMPERATURE ABOVE 90 DEG F) | PERIODIC PERIODIC PERIODIC CONTINUOUS PERIODIC | 2104.3, 2104.4 | 1.2.2 (E), 2.1.4, 3.1.6 1.13 2.1.10.7.2, 3.3.3.4 (B) | 3.3G 2.4, 3.4 1.8C, 1.8D |
| 3. 4. | PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE: A. GROUT SPACE IS CLEAN. B. PLACEMENT OF REINFORCEMENT AND CONNECTORS AND ANCHORAGES. C. PROPORTIONS OF SITE-PREPARED GROUT AND ANCHORAGES. D. CONSTRUCTION OF MORTAR JOINTS. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE | PERIODIC PERIODIC PERIODIC PERIODIC | | 1.13 | 3.2D 3.4 2.6B 3.3B |
| | COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS. | CONTINUOUS | _ | _ | 3.5 |
| 5. | PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS SHALL BE OBSERVED. | CONTINUOUS | 2105.2.2, 2105.3 | _ | 1.4 |
| 6. | COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE SUBMITTALS SHALL BE VERIFIED. | PERIODIC | _ | _ | 1.5 |

SPECIAL INSPECTION

SPECIAL INSPECTION IS A MANDATORY REQUIREMENT OF THE CONTRACTOR FOR VERIFYING CONFORMANCE OF THE INDICATED CONSTRUCTION. SPECIAL INSPECTION IS REQUIRED IN ADDITION TO ALL MATERIAL TESTS AND INSPECTIONS IDENTIFIED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.

THE CONTRACTOR SHALL EMPLOY INDEPENDENT AGENCY(IES) OR INDIVIDUAL(S) TO PROVIDE SPECIAL INSPECTION FOR ITEMS AS INDICATED ON THE

THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON, WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL AND THE STRUCTURAL ENGINEER, FOR INSPECTION OF EACH PARTICULAR TYPE OF

CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. "PERIODIC" SPECIAL INSPECTION IS DEFINED AS "THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING

"CONTINUOUS" SPECIAL INSPECTION IS DEFINED AS "THE <u>FULL-TIME OBSERVATION</u> OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED."

PERFORMED AND AT THE COMPLETION OF THE WORK."

THE CONTRACTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER FOR REVIEW A MINIMUM OF 14 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION OF

ELEMENTS REQUIRING SPECIAL INSPECTION THE FOLLOWING: NAME(S), ADDRESS(ES), TELEPHONE NUMBER(S), EMAIL ADDRESS(ES), AND

STATEMENT(S) OF QUALIFICATIONS OF ALL SPECIAL INSPECTOR(S) TO BE ENGAGED ON THE PROJECT. A LISTING OF ALL ITEMS TO RECEIVE SPECIAL INSPECTION, DESIGNATION

WHETHER INSPECTION WILL BE CONTINUOUS OR PERIODIC AND THE NAME OF THE INDIVIDUAL THAT WILL BE PERFORMING INSPECTION FOR EACH ITEM.

IN ADVANCE OF WORK REQUIRING SPECIAL INSPECTION AND SHALL PROVIDE ACCESS TO THE SITE AND TO THE CONSTRUCTION DOCUMENTS (CURRENT DRAWINGS AND SPECIFICATIONS) FOR THE SPECIAL INSPECTOR CARRY OUT THE REQUIRED OPERATIONS. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK REQUIRING SPECIAL

THE CONTRACTOR SHALL COORDINATE WITH THE SPECIAL INSPECTOR SUFFICIENTLY

INSPECTION FOR CONFORMANCE TO THE CONSTRUCTION DOCUMENTS. ALL NON-CONFORMING WORK SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE IMMEDIATE ATTENTION OF THE STRUCTURAL ENGINEER. THE SPECIAL INSPECTOR SHALL SUBMIT PERIODIC PROGRESS REPORTS TO THE

CONTRACTOR AND STRUCTURAL ENGINEER IDENTIFYING ALL SPECIAL INSPECTION OPERATIONS PERFORMED. REPORTS SHALL BE SUBMITTED NO MORE THAN 7 DAYS FOLLOWING EACH SPECIAL INSPECTION OPERATION. REPORTS SHALL IDENTIFY THE ITEM(S) INSPECTED AND AN INDICATION OF WHETHER THE INSPECTED ITEMS WERE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS.

AT THE COMPLETION OF ALL WORK REQUIRING SPECIAL INSPECTION, THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT TO THE OWNER AND STRUCTURAL ENGINEER STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS.

FAILURE TO PERFORM SPECIAL INSPECTION FOR THE INDICATED CONSTRUCTION OR FAILURE TO CORRECT NON-CONFORMING WORK SHALL CONSTITUTE A BASIS FOR REJECTION OF THE WORK AND REMOVAL AND REPLACEMENT BY THE GENERAL CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER, INCLUDING, BUT NOT LIMITED TO:

- THE COST OF REMOVAL AND REPLACEMENT OF ALL WORK FOR WHICH SPECIAL INSPECTION WAS REQUIRED BUT NOT PERFORMED, INCLUDING THE COST OF TESTING AND SPECIAL INSPECTION FOR THE REPLACEMENT
- THE COST OF ALL RELATED WORK MADE NECESSARY BY THE REMOVAL AND REPLACEMENT OF THE UNINSPECTED WORK PER ITEM 1 ABOVE. THE COST FOR DESIGN PROFESSIONAL'S SERVICES RELATED TO ALL WORK FOR WHICH SPECIAL INSPECTION WAS REQUIRED BUT NOT PERFORMED AND

SERVICES RELATED TO THE REPLACEMENT WORK. PROVIDE SPECIAL INSPECTION FOR THE FOLLOWING CONSTRUCTION:

CONCRETE MASONRY CAST-IN-PLACE CONCRETE

PRECAST CONCRETE STRUCTURAL STEEL

REQUIREMENTS.

SEE TABLE(S) ON THE DRAWINGS FOR SPECIAL INSPECTION PROGRAM

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501



MEMBER LOCATIONS.

EACH CONNECTION.

APPLICATION OF JOINT DETAILS AT







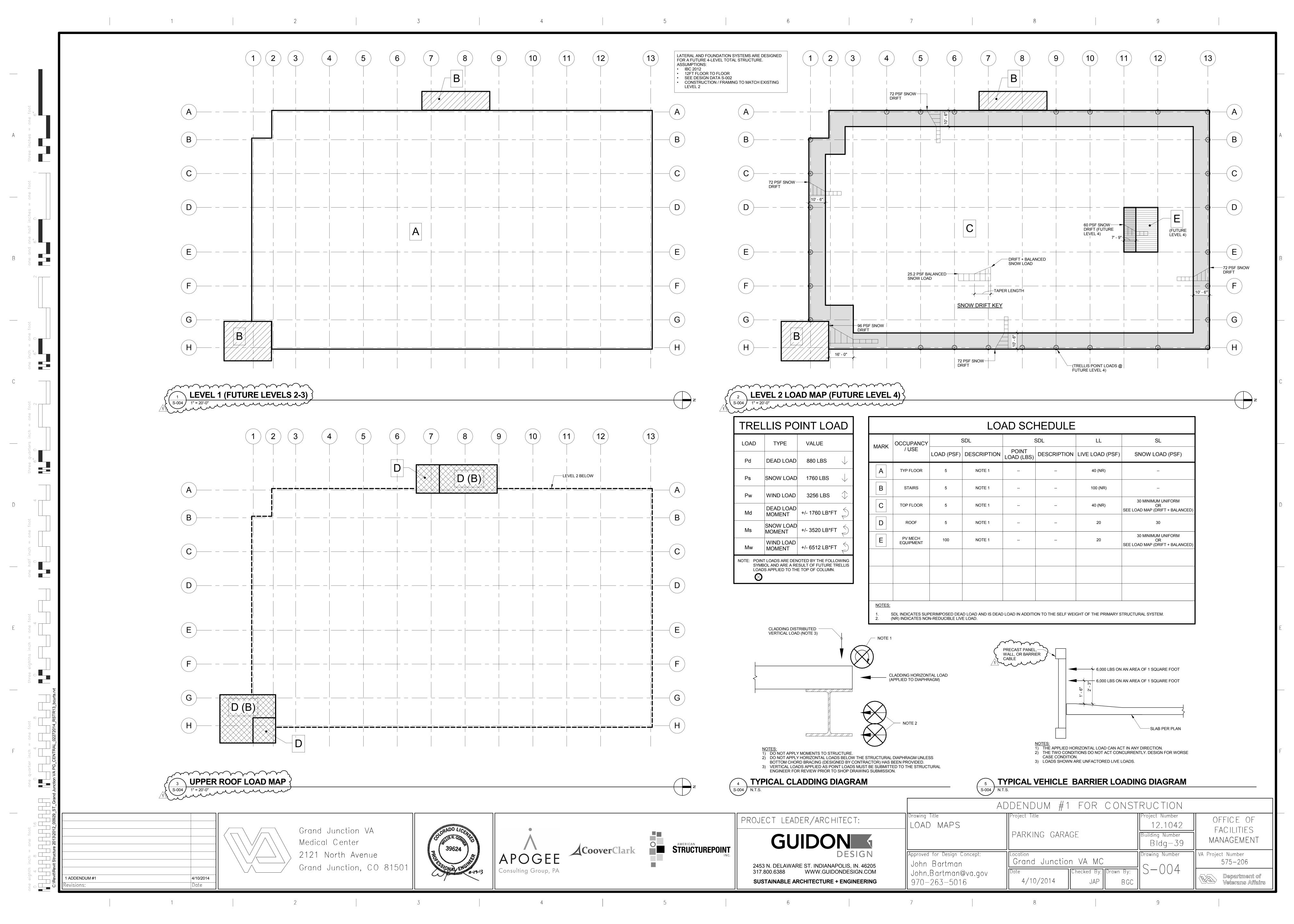


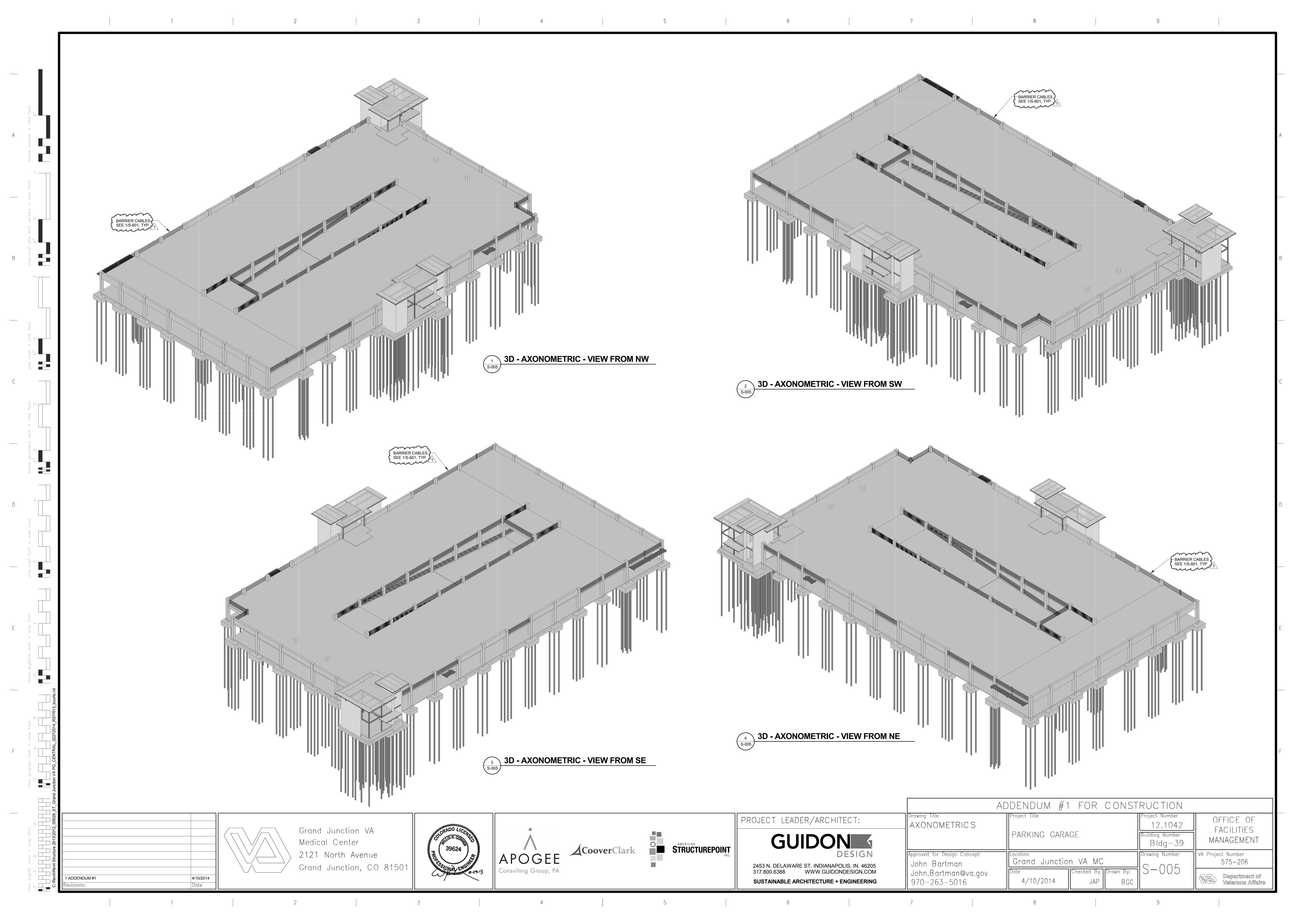
2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 317.800.6388 WWW.GUIDONDESIGN.COM SUSTAINABLE ARCHITECTURE + ENGINEERING

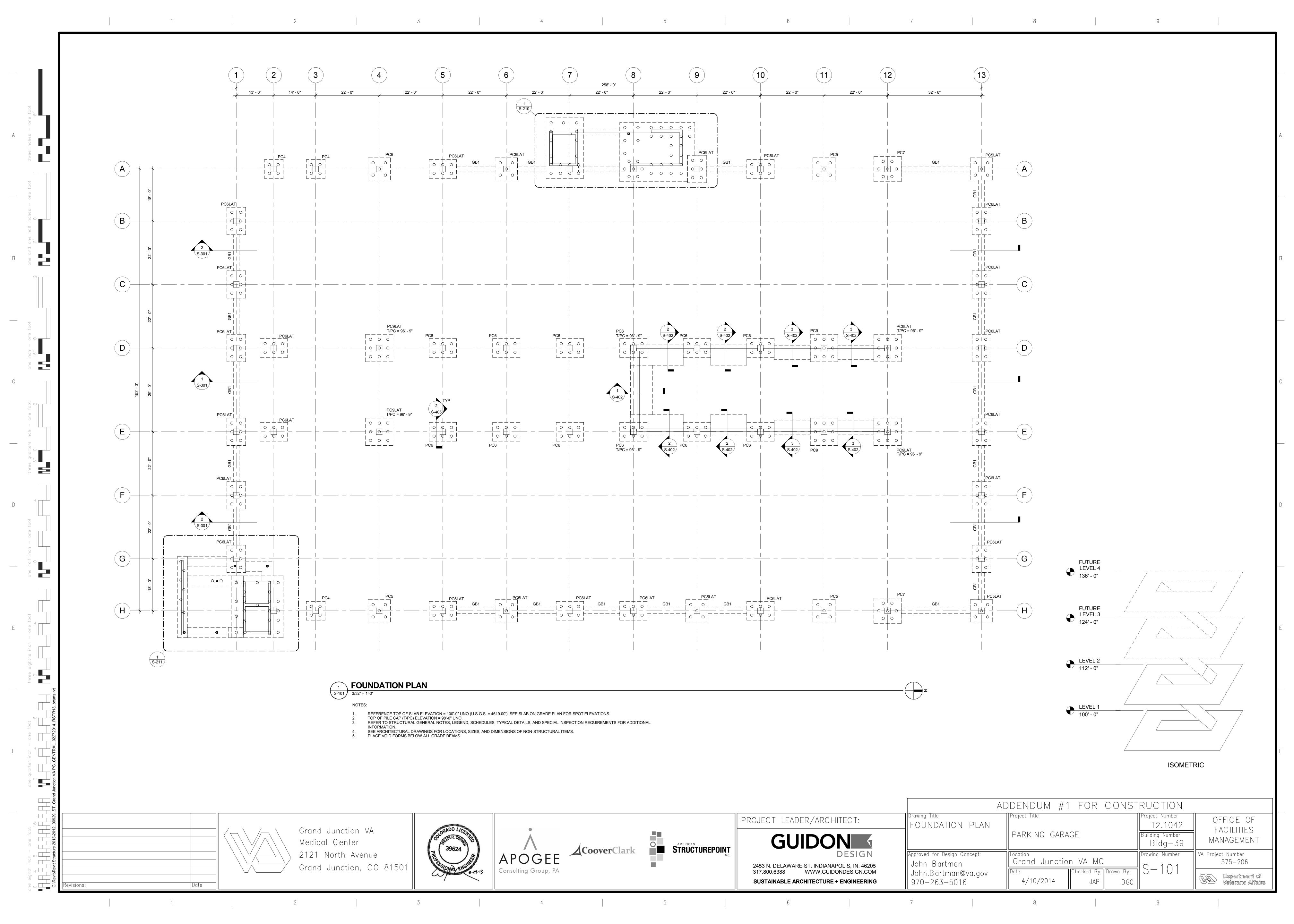
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|------------------------------------|-------------------|
| Drawing Title | Project Title |
| SPECIAL INSPECTION NOTES AND TABLE | |
| Approved for Design Concept: | Location |
| John Bartman | Grand Junction VA |
| John.Bartman@va.gov | Date |

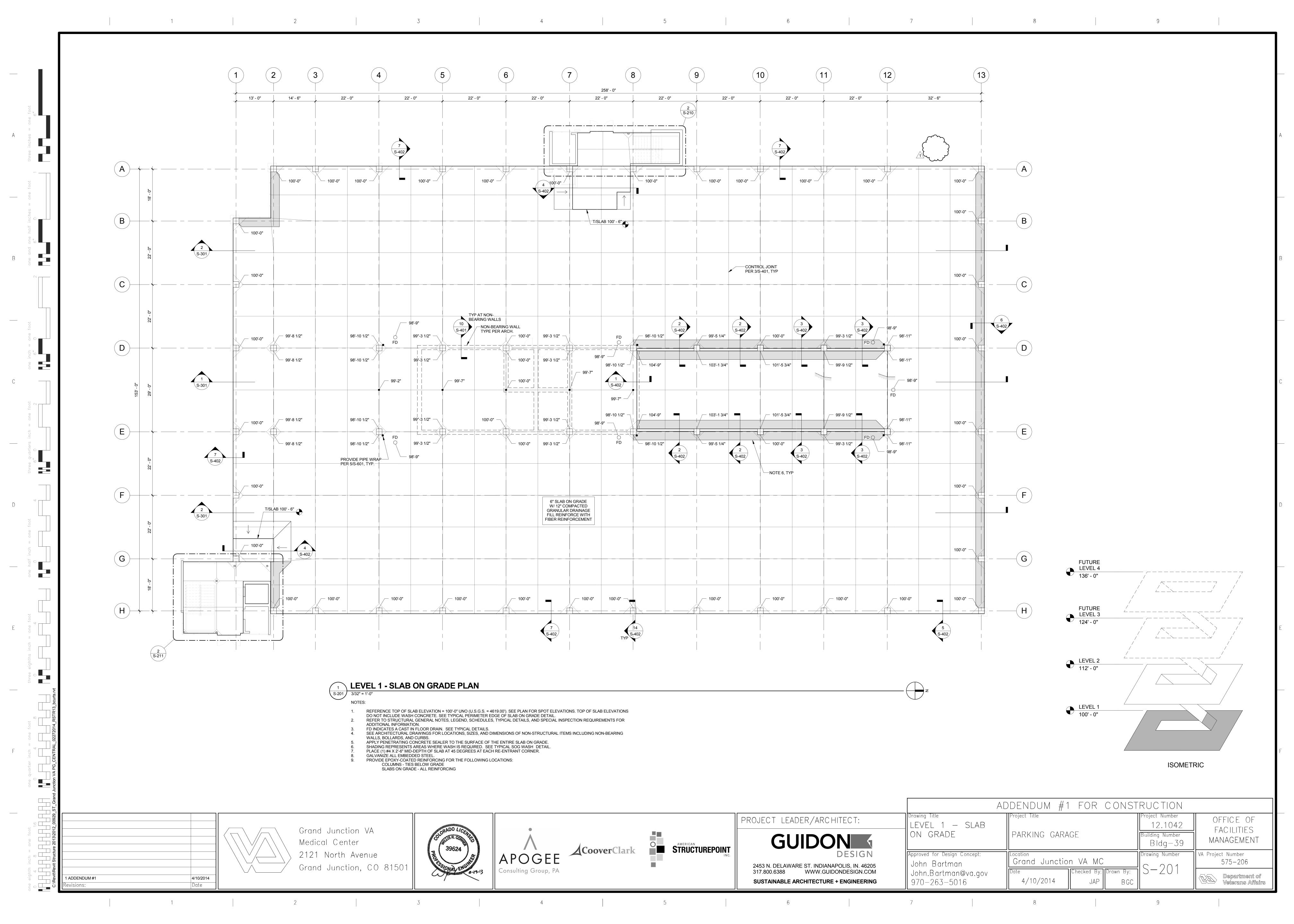
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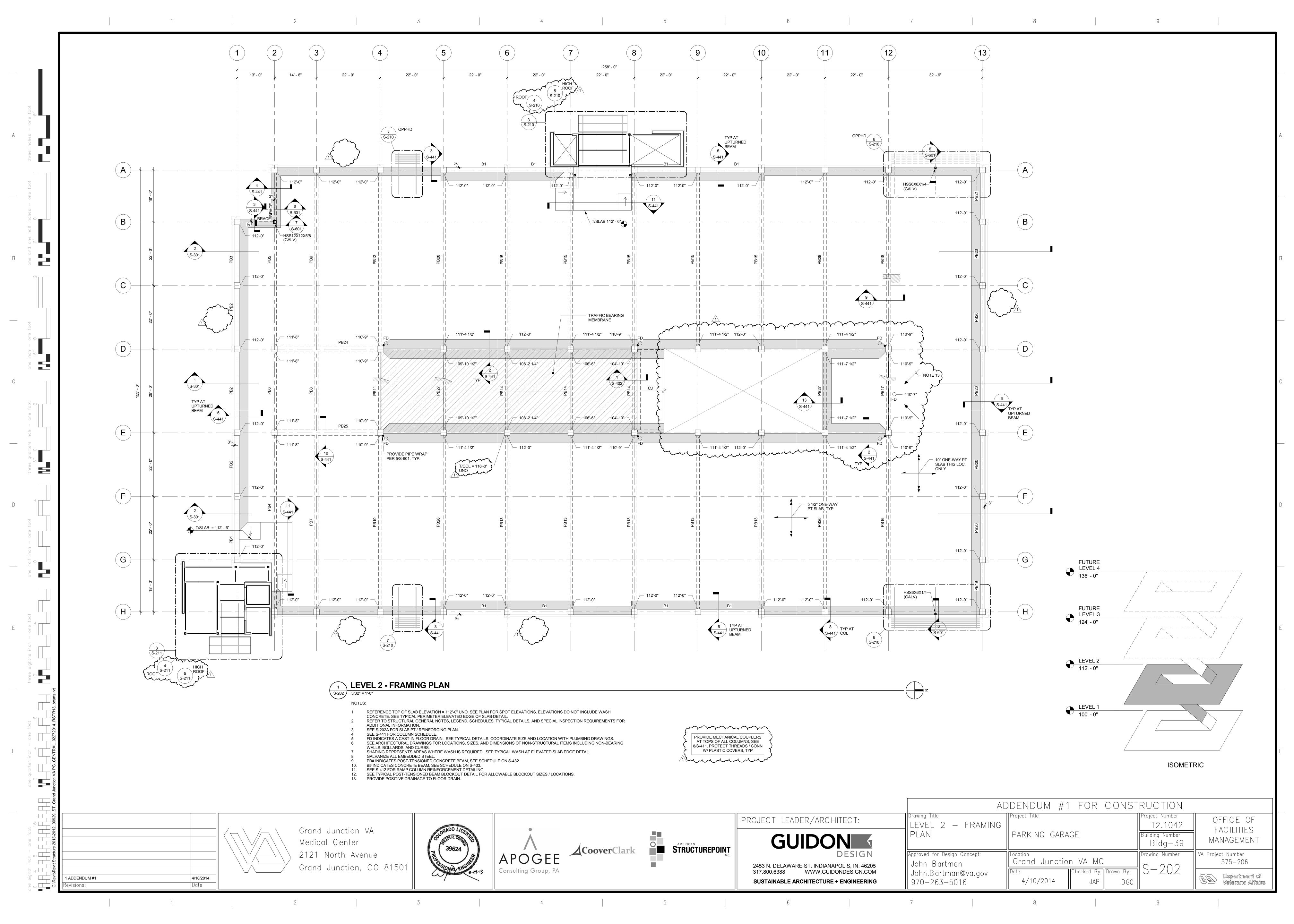
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|---------|----------------------------|--------------------|------------------|---|----------|-----------------------------------|
| ON S | Project Title PARKING GARA | GE | | Project Number 12.1042 Building Number Bldg-39 | ll F. | FFICE OF ACILITIES NAGEMENT |
| | Location Grand Junctio | | | Drawing Number | VA Proje | ct Number 575-206 |
| | Date 4/10/2014 | Checked By: JAP | Drawn By: BGC | S-003 | | Department of Veterans Affair |

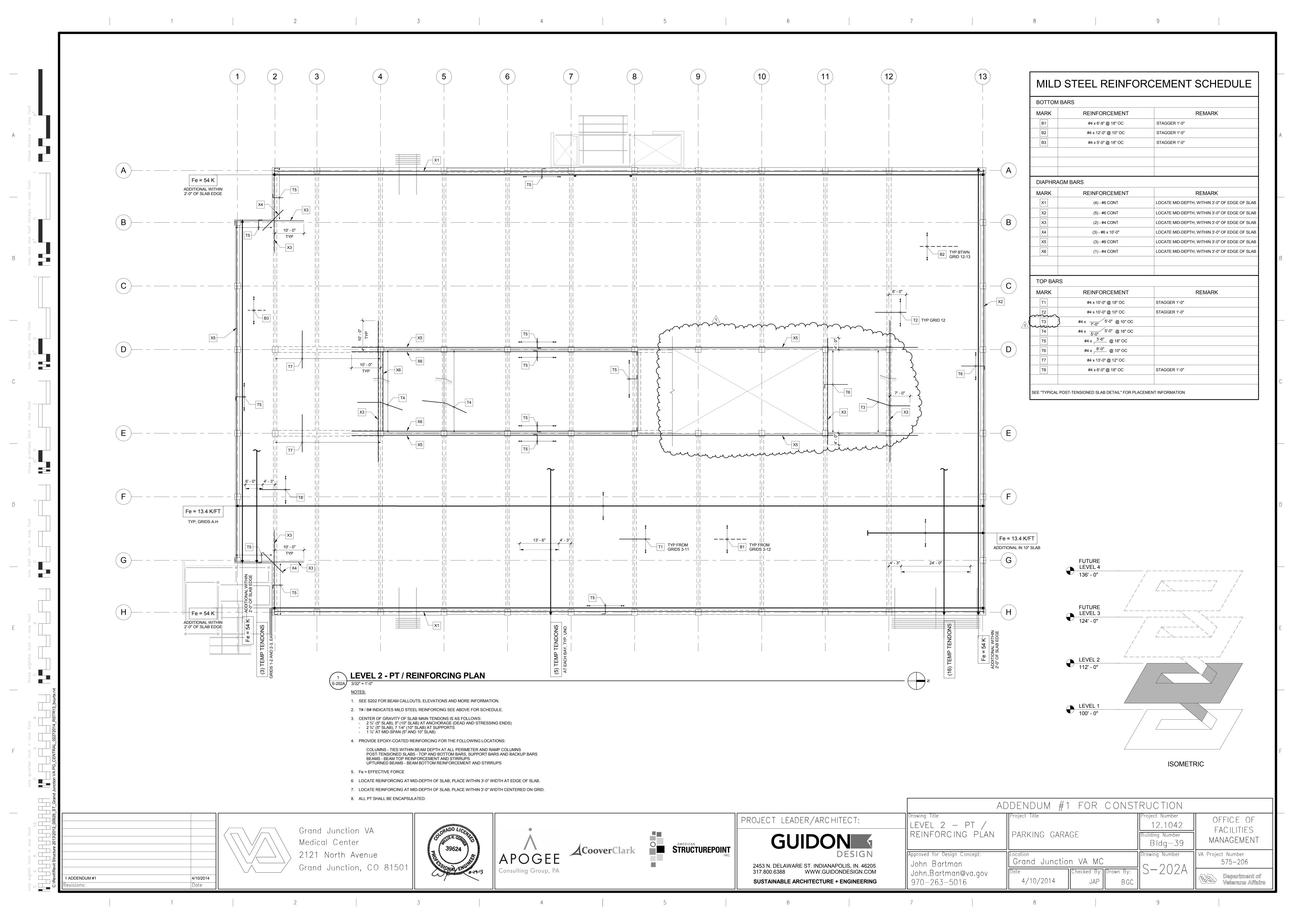


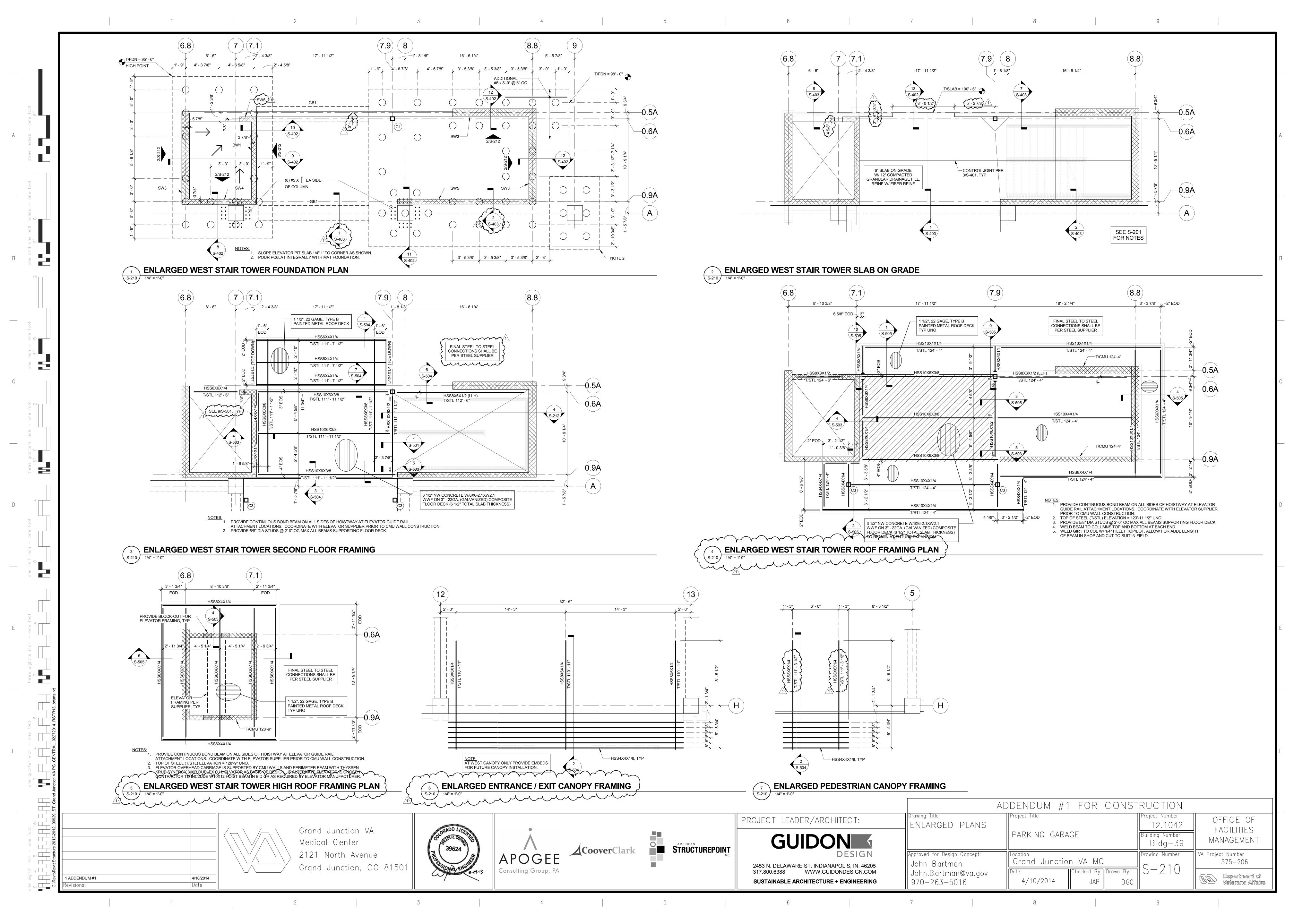


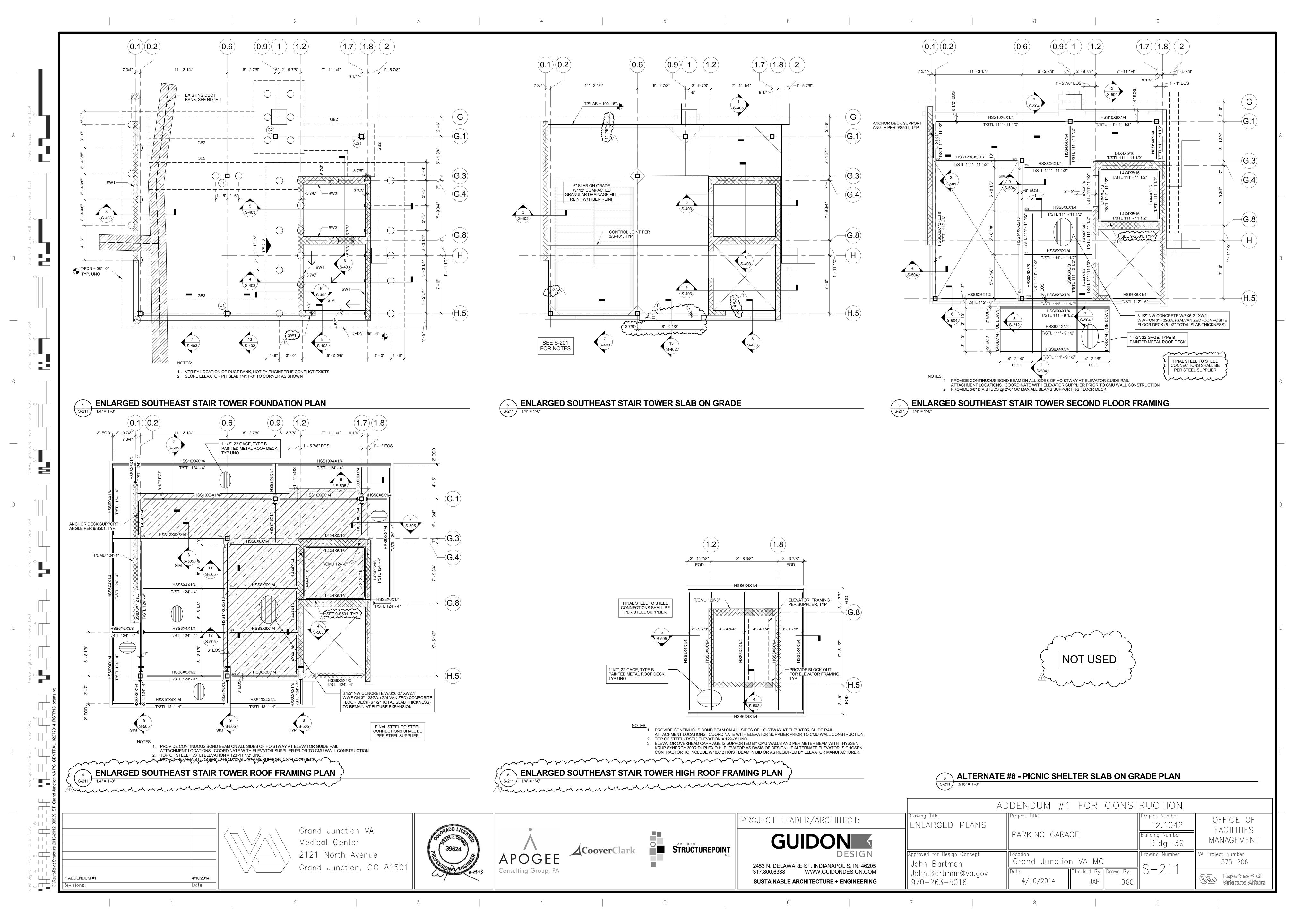


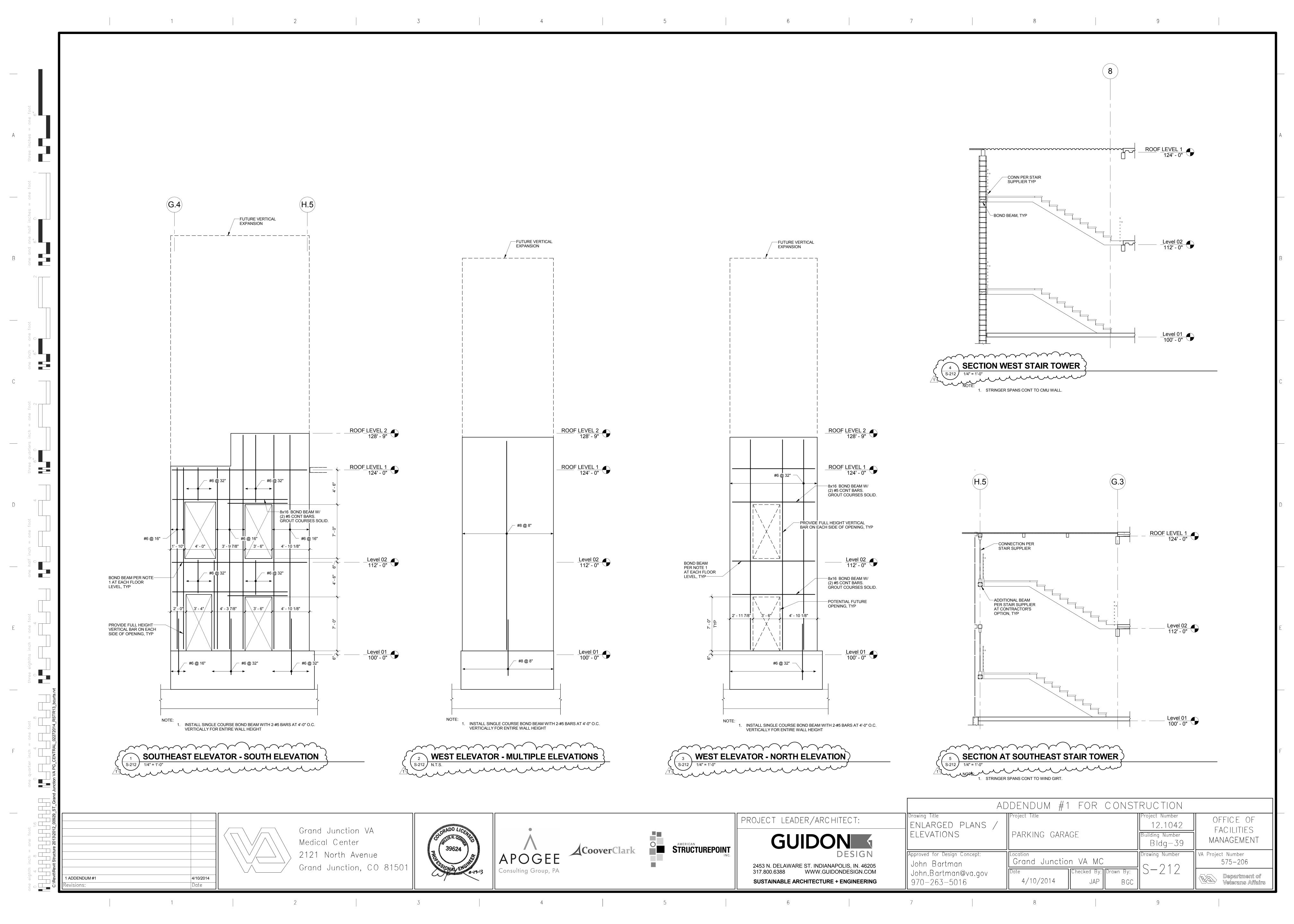


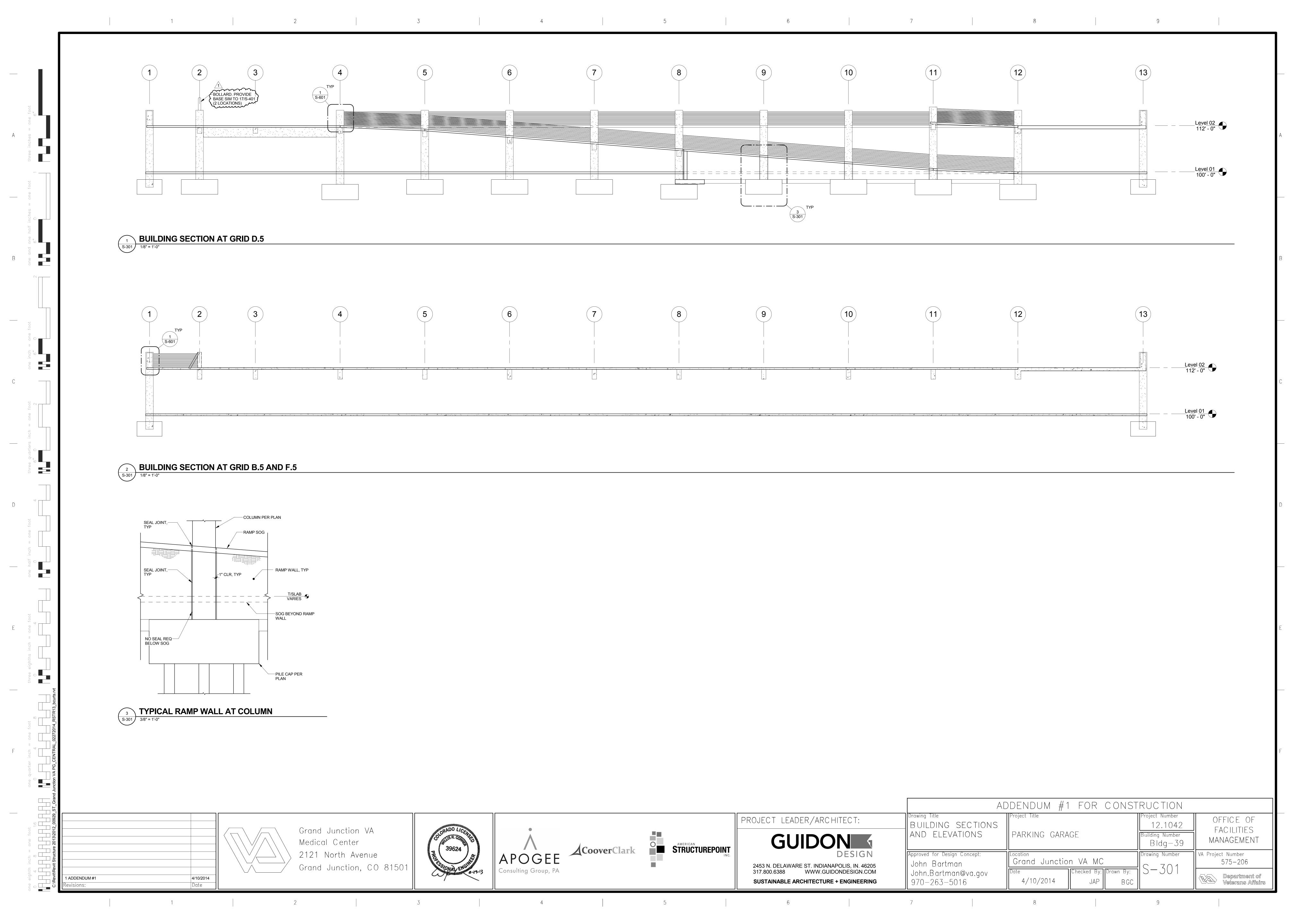


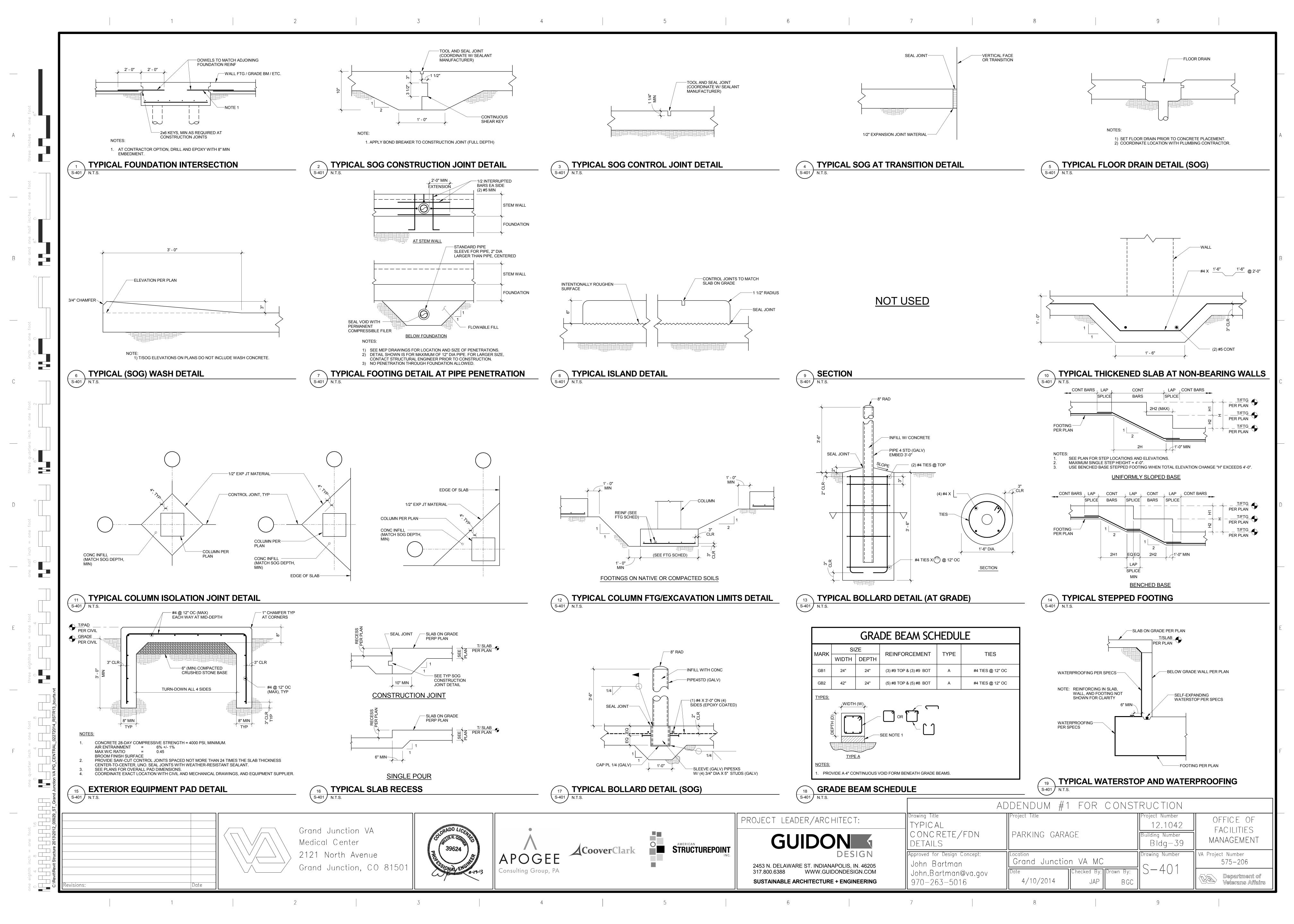


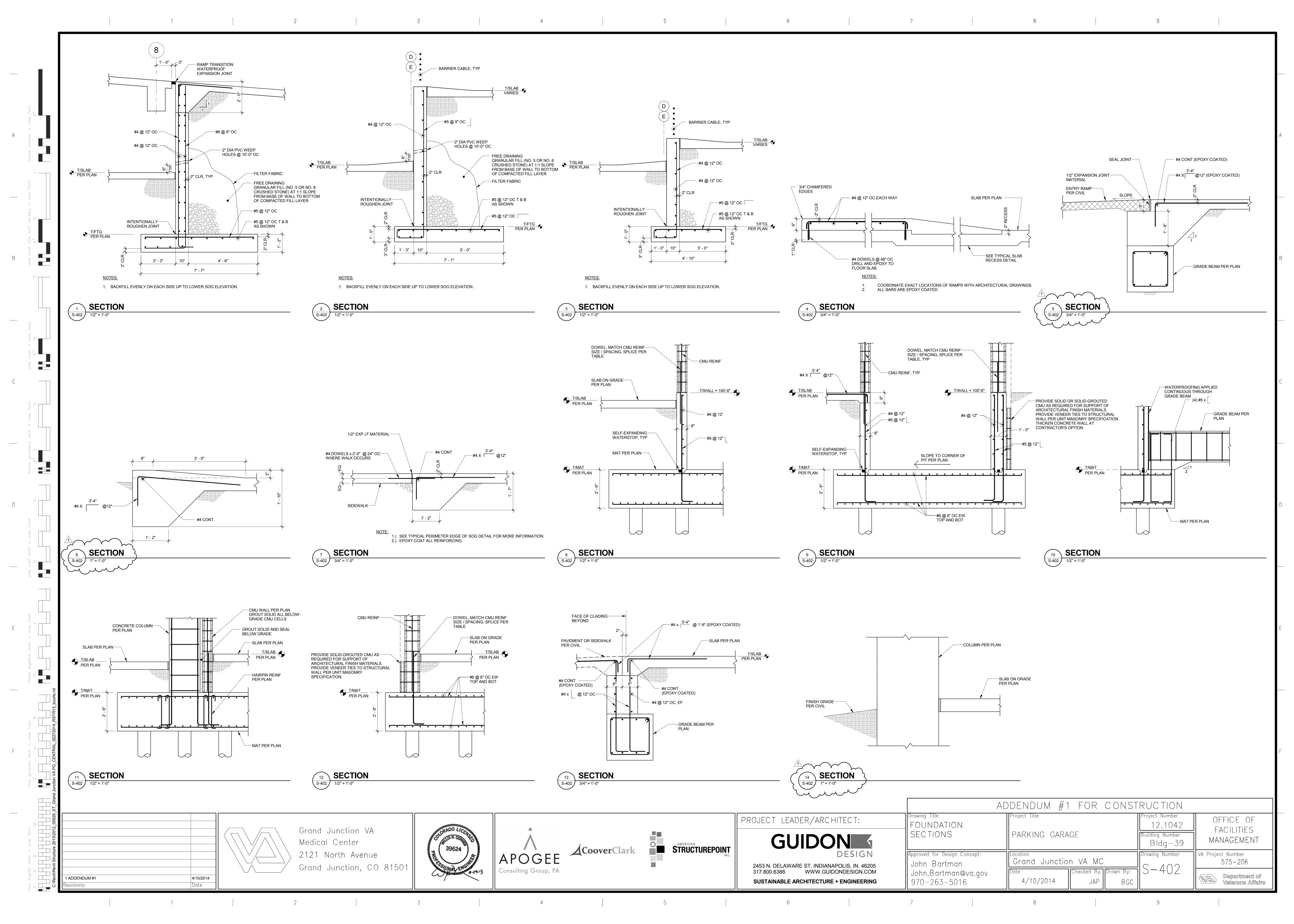


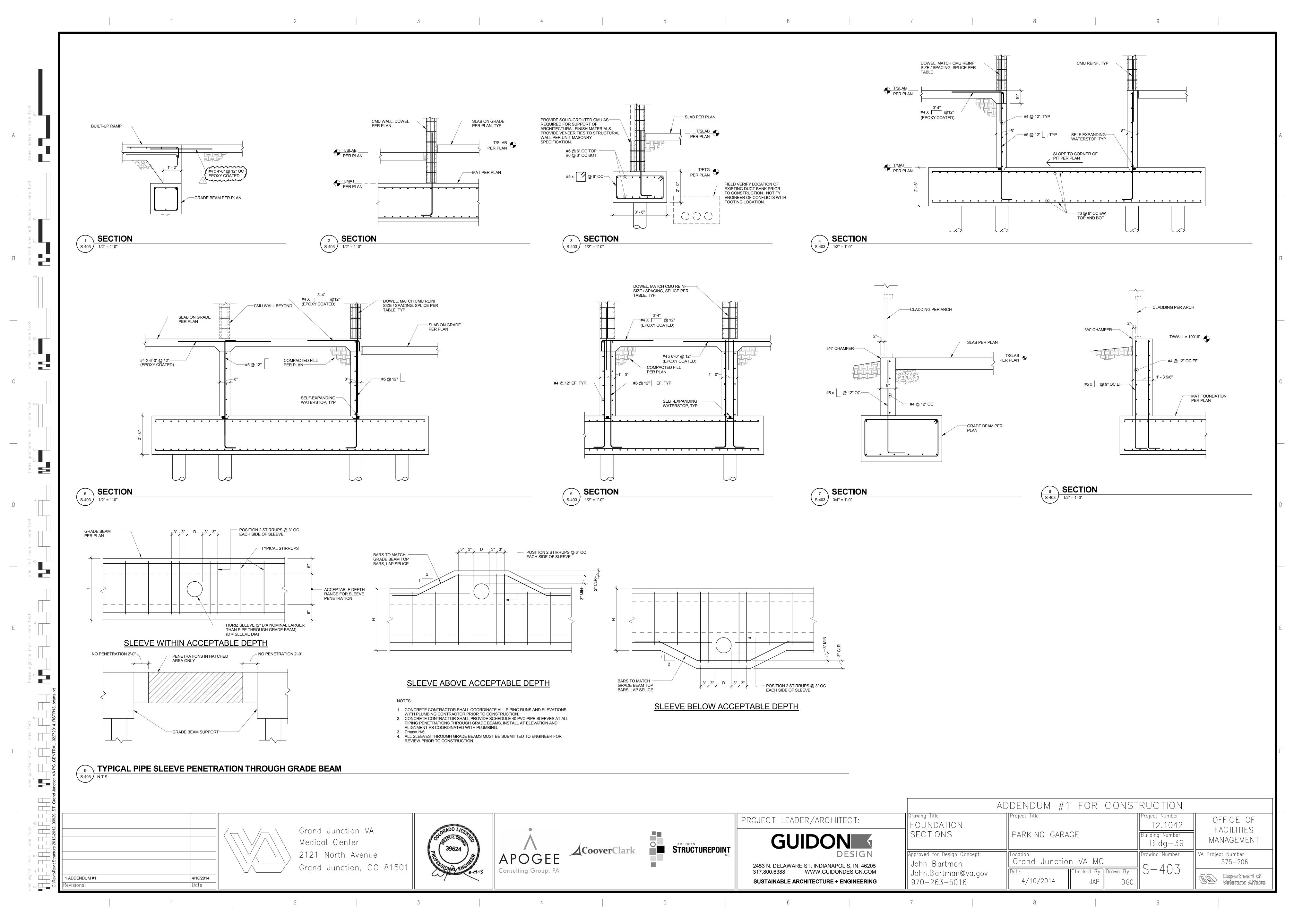


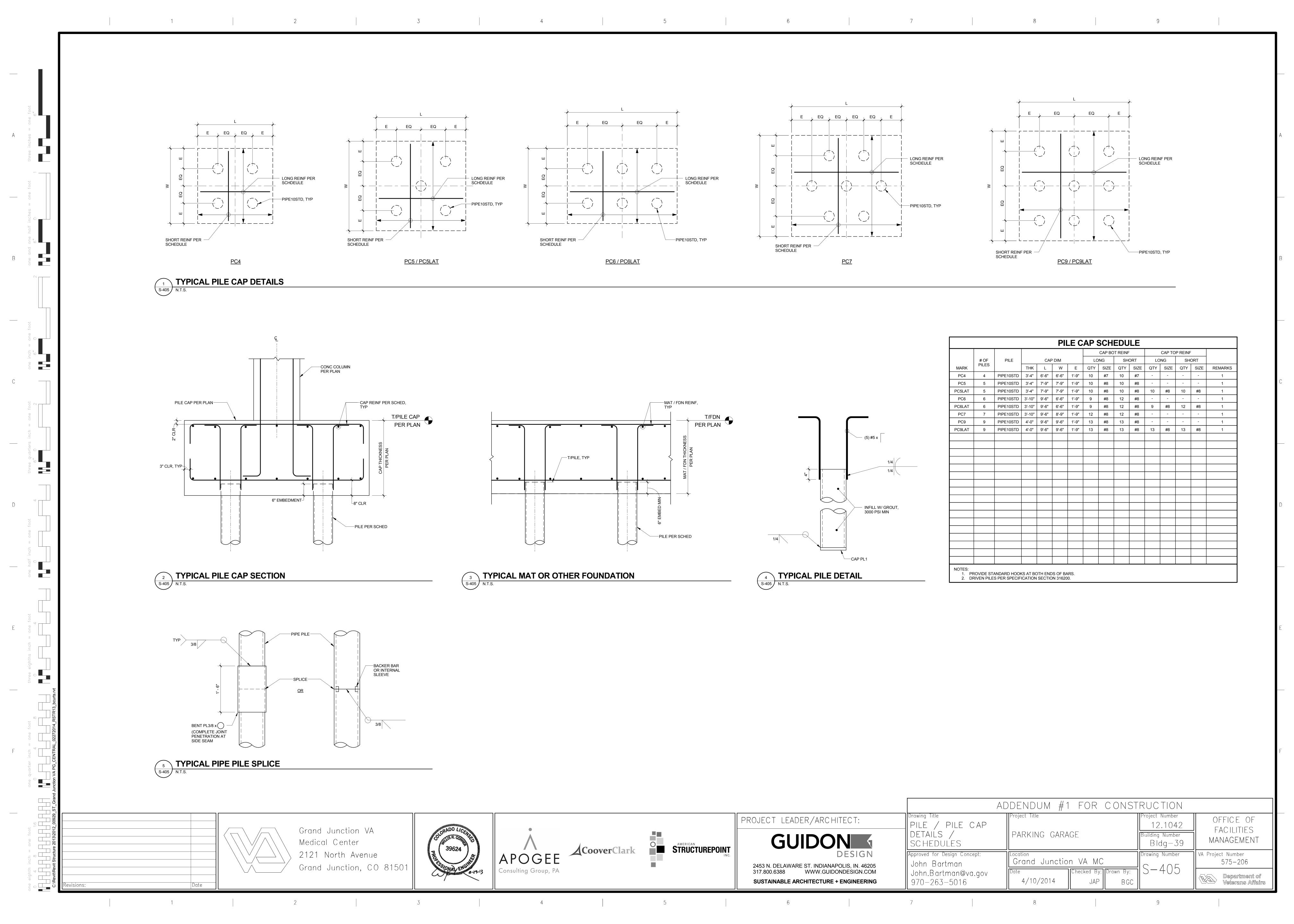


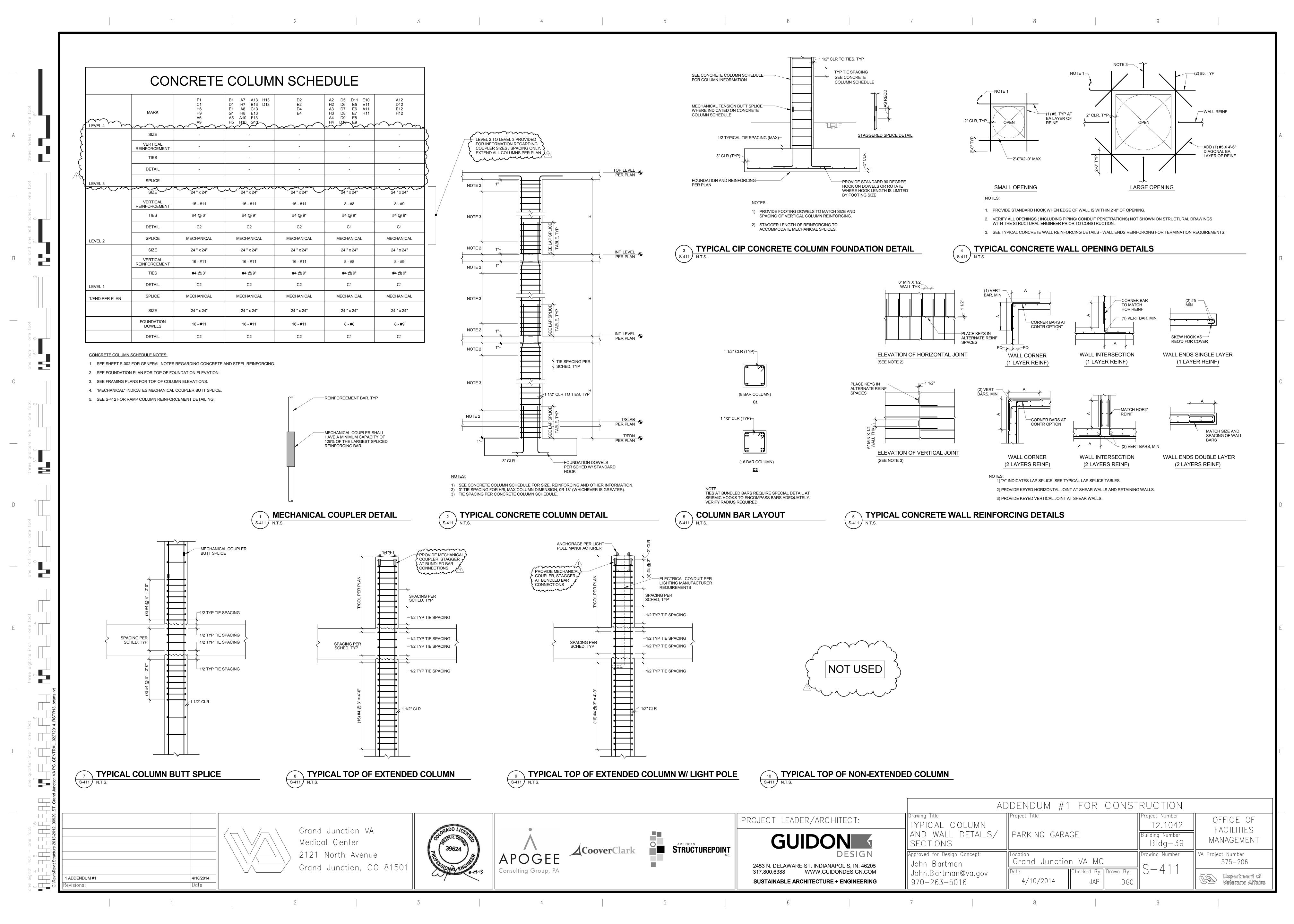


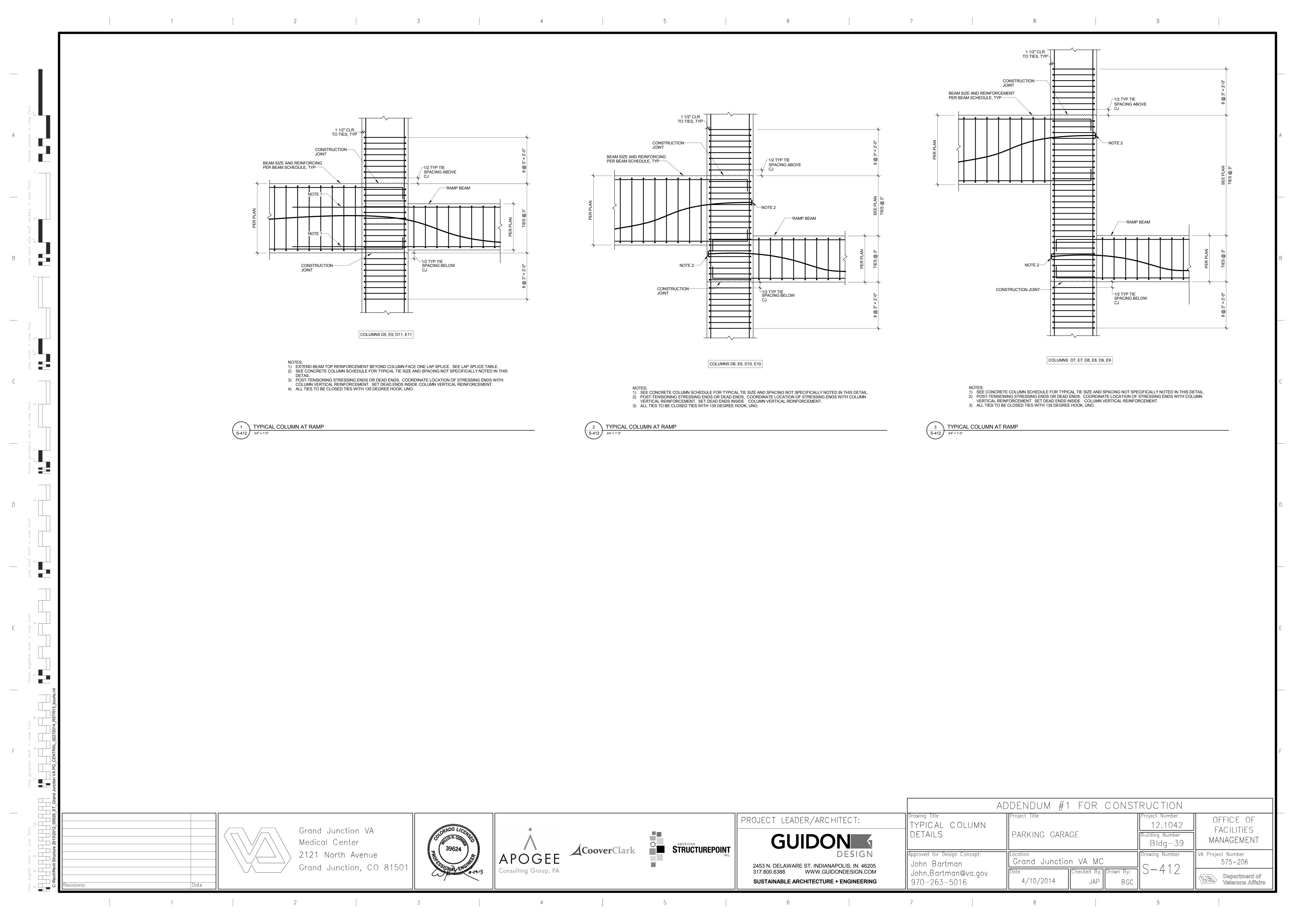


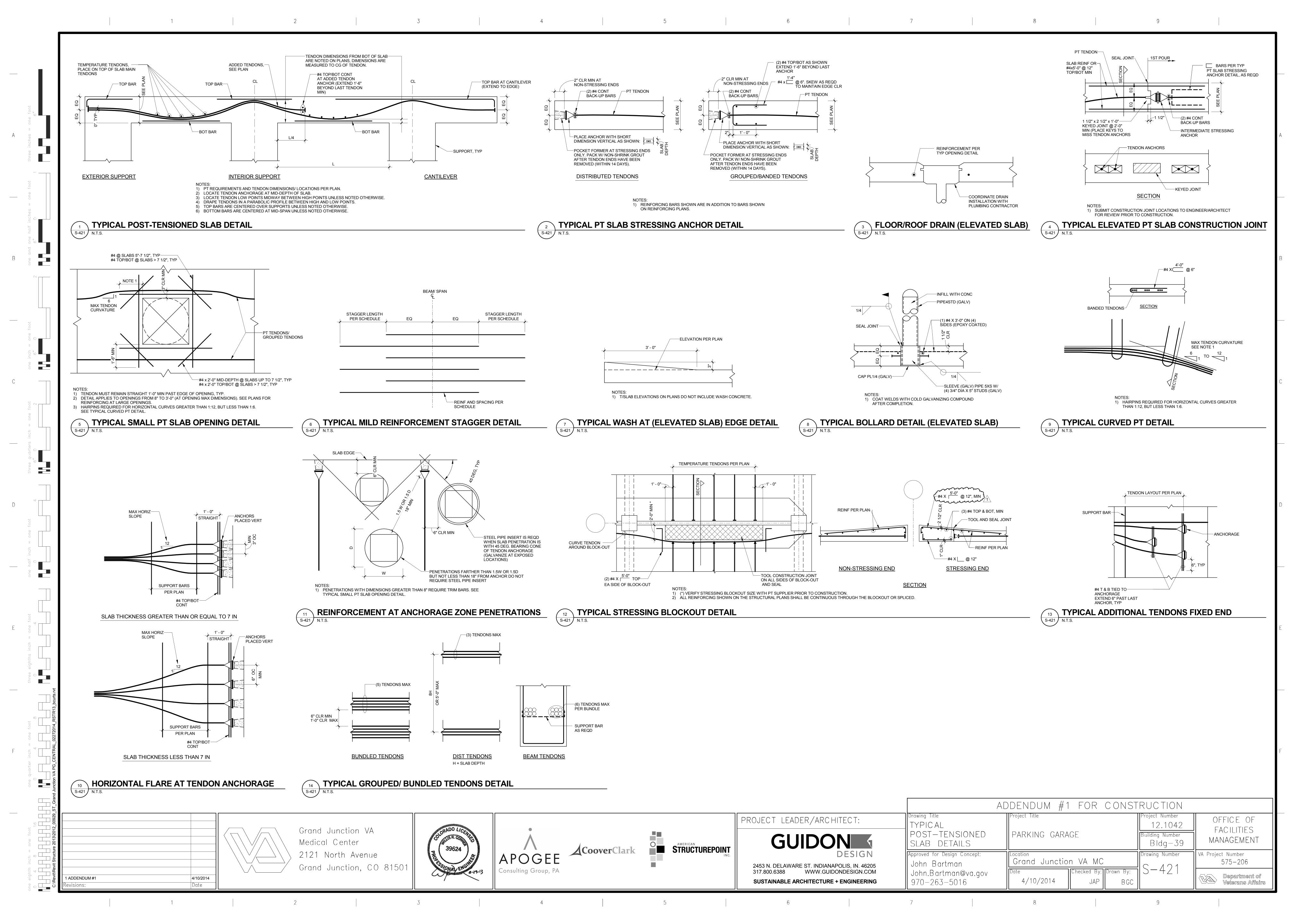


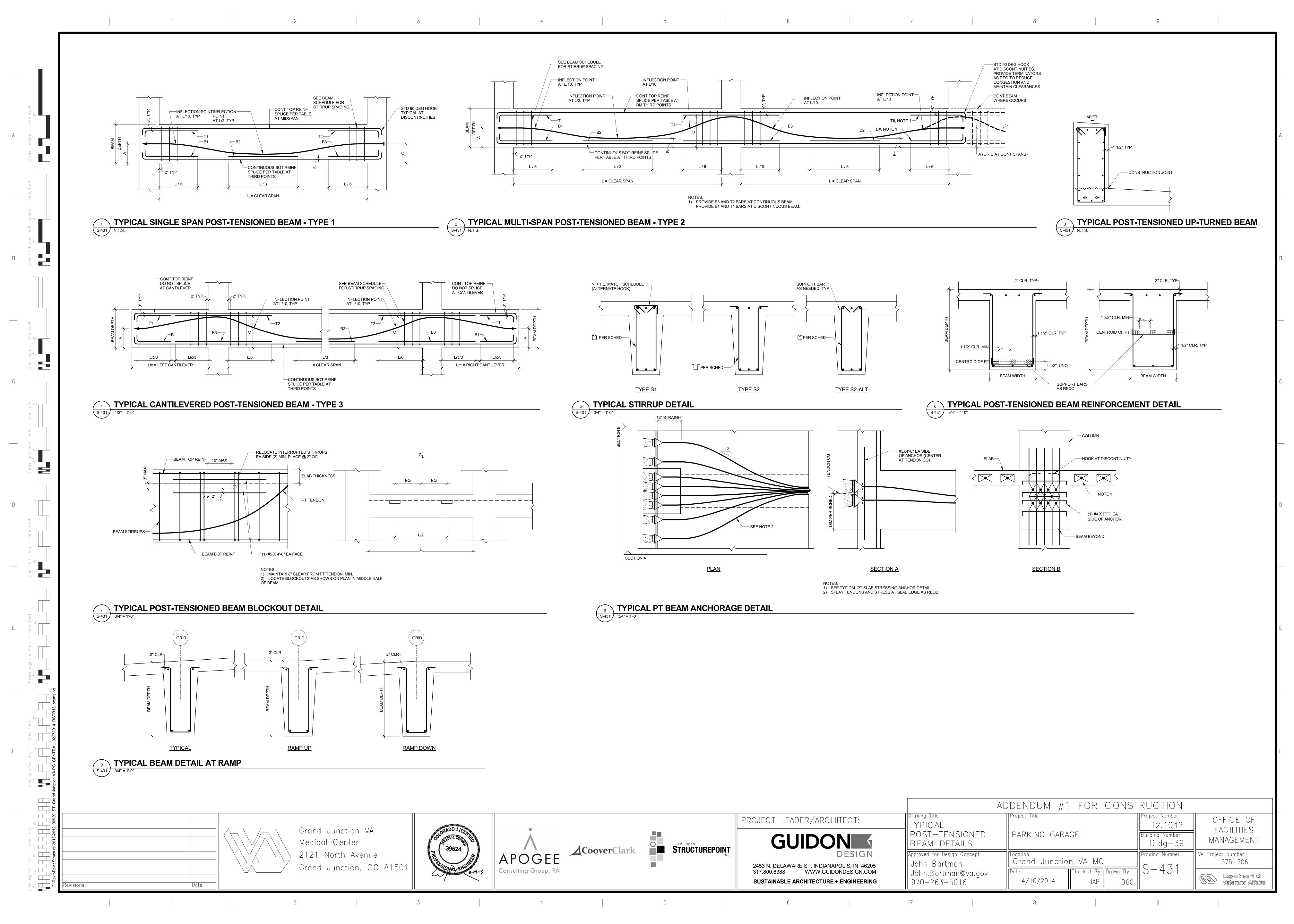












| | | РО | ST-TEN | SIO | NE | D C | ONCR | ETE | BE | AM | SC | HE | DL | JLE | |
|------|------|-----------------------|--------------|-----|---------------------|----------|--------------------|----------|------------|---------|----------|----------------------|----------|---------------------|--|
| BEAM | BEAM | SIZE | PRESTRESSING | | TICAL TEI CATION | | LONGITUD | INAL REI | NFORCE | MENT | | , | STIRRI | UPS | REMARKS |
| MARK | TYPE | WIDTH x DEPTH (IN) | FORCE (KIPS) | Α | В | С | CONT | | ADDITIONAL | - | | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | UPTURNED BEAM |
| DD4 | 2 | 18x52 | 161 | 26 | 4.5 | 49 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (8) @ 12" | #5 SIDE BARS @ 12" OC, EACH SIDE |
| PB1 | 2 | 10,02 | 101 | 20 | 4.5 | 49 | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 24" | 1 |
| | | | | | | | 2 LAYERS-(4) #9 EA | - | - | - | | | | | 1 |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | UPTURNED BEAM |
| DDO | 2 | 18x52 | 161 | 49 | 4.5 | 49 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (8) @ 12" | #5 SIDE BARS @ 12" OC EACH SIDE |
| PB2 | ۷ | 100.52 | 101 | 49 | 4.5 | 49 | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 24" | 1 |
| | | | | | | | (5) #9 | - | - | - | | | | | 1 |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | UPTURNED BEAM #5 SIDE BARS @ 12" OC |
| PB3 | 2 | 18x52 | 161 | 49 | 4.5 | 26 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (8) @ 12" | EACH SIDE |
| PDJ | 2 | 10,02 | 101 | 40 | 4.5 | 20 | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 24" | 1 |
| | | | | | | | 2 LAYERS-(4) #9 EA | - | - | - | | | | | 1 |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| DD 4 | 2 | 14,26 | 244 | 10 | 4.5 | 22 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | 1 |
| PB4 | 2 | 14x36 | 241 | 18 | 4.5 | 33 | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | 1 |
| | | | | | | | (3) #8 | - | - | - | | | | | 1 |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| | _ | 44.00 | 2 | 00 | | 1.5 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | |
| PB5 | 2 | 14x36 | 241 | 33 | 4.5 | 18 | воттом | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #8 | - | - | - | <u> </u> | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| | | | | | | | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2" | 1 |
| PB6 | 2 | 14x24 | 241 | 21 | 4.5 | 21 | ВОТТОМ | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | 1 |
| | | | | | | | (3) #8 | - | - | - | | | | _ | 1 |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| | | | | | | | (2) #8 | _ | _ | _ | EA END | | S1 | (1) @ 2", (5) @ 9" | |
| PB7 | 2 | 14x36 | 295 | 18 | 4.5 | 33 | воттом | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | - |
| | | | | | | | (3) #9 | _ | _ | - | | | | | - |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| | | | | | | | (2) #8 | _ | - | _ | EA END | #4 | S1 | (1) @ 2" | - |
| PB8 | 2 | 14x24 | 295 | 21 | 4.5 | 21 | воттом | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | 1 |
| | | | | | | | (3) #9 | | - | - | | | | 27.2 @ 12 | - |
| | | | | | | | TOP | T1 | | T2 | LOC | SIZE | TYPE | SPACING | |
| | | | | | | | (2) #8 | - | _ | - | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | |
| PB9 | 2 | 14x36 | 295 | 33 | 4.5 | 18 | воттом | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | - |
| | | | | | | | (3) #9 | | | - | 5,12 | | | 5,12 @ 12 | |
| | | | | | | | TOP | T1 | _ | T2 | LOC | SIZE | TYPE | SPACING | |
| | | | | | | | (2) #8 | - | _ | - | EA END | | S1 | (1) @ 2", (5) @ 9" | 1 |
| PB10 | 2 | 14x36 | 482 | 18 | 4.5 | 33 | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | 1 |
| | | | | | | | | | | | DAL | <i>π</i> -ι | 02 | DAL @ 12 | |
| | | | | | | | (3) #9 TOP | - T1 | - | - T2 | LOC | SIZE | TYPE | SPACING | |
| | | | | | | | (2) #8 | - | - | - | EA END | | S1 | (1) @ 2" | - |
| PB11 | 2 | 14x24 | 401 | 21 | 4.5 | 21 | BOTTOM | - B1 | - B2 | - B3 | BAL | # 4 #4 | S1 S2 | BAL @ 12" | - |
| | | | | | | | (3) #9 | - B1 | B2 - | В3 | DAL | # " | 32 | DAL W 12 | - |
| | | | | | | | (3) #9 TOP | - T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| | | | | | | | | | | | - | | | | - |
| PB12 | 2 | 14x36 | 482 | 33 | 4.5 | 18 | (2) #8 BOTTOM | - | - B2 | - R3 | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | - |
| | | | | | | | BOTTOM (3) #0 | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | - |
| | | <u> </u> | | | | | (3) #9 | - T1 | - | то | 100 | 0175 | TVDE | CDAOBIC | <u> </u> |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE 04 | SPACING | |
| PB13 | 1 | 14x36 | 429 | 18 | 4.5 | 18 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | |
| | | | | | | | BOTTOM (2) (2) | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | <u> </u> | (3) #9 | - | - | - | <u> </u> | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB14 | 1 | 14x24 | 402 | 12 | 4.5 | 12 | (2) #8 | - | - | - | EA END | | S1 | (1) @ 2", (5) @ 9" | |
| | | | | | | | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB15 | 1 | 14x36 | 429 | 18 | 4.5 | 18 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | |
| | | | | | | | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" |] |
| | Ī | I | 1 | Ī | Ì | 1 | <u> </u> | | | | ı | | | | I |

| BEAM | BEAM | SIZE | PRESTRESSING | | ICAL TEI CATION | | LONGITUE | INAL REI | NFORCE | MENT | | | O | JDC | |
|-------|------|-----------------------|--------------|----|--------------------|----|------------------|----------|------------|-------------|---------------|----------------|----------|---------------------------------|-------------------------------------|
| MARK | TYPE | WIDTH x DEPTH (IN) | FORCE (KIPS) | А | В | С | CONT | | ADDITIONAL | | | ; | STIRRI | JPS | REMARKS |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB16 | 2 | 18x36 | 669 | 18 | 4.5 | 33 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | |
| | | | | | | | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB17 | 2 | 18x24 | 590 | 21 | 4.5 | 21 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2" | |
| | | | | | | | ВОТТОМ | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | 100 | 0.75 | T) (DE | 004000 | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE #4 | TYPE | SPACING | |
| PB18 | 2 | 18x36 | 669 | 33 | 4.5 | 18 | (2) #8 BOTTOM | - B1 | - B2 | - B3 | EA END BAL | #4 | S1 S2 | (1) @ 2", (5) @ 9" BAL @ 12" | |
| | | | | | | | (3) #9 | - DI | - | - | DAL | # 4 | 32 | BAL @ 12 | |
| | | | | | | | TOP | T1 | _ | T2 | LOC | SIZE | TYPE | SPACING | UPTURNED BEAM |
| | | | | | | | (2) #8 | | - | - | EA END | #4 | S1 | (1) @ 2", (8) @ 6" | #5 SIDE BARS @ 12" OC, EACH SIDE |
| PB19 | 2 | 18x52 | 536 | 26 | 4.5 | 49 | ВОТТОМ | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | | | _ | <u> </u> | |
| | | | | | | | ТОР | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | UPTURNED BEAM |
| DD | _ | | | 4- | | | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (22) @ 6" | #5 SIDE BARS @ 12" OC, EACH SIDE |
| PB20 | 2 | 18x52 | 536 | 49 | 4.5 | 49 | воттом | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | UPTURNED BEAM |
| DD 24 | 2 | 18x52 | 536 | 49 | 4.5 | 26 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (8) @ 6" | #5 SIDE BARS @ 12" OC, EACH SIDE |
| PB21 | ۷ | 10002 | | 49 | 4.5 | 20 | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | | | | | |
| | | ~~~ | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB22 | | NOT | | | | | - | - | - | - | EA END | - | - | - | |
| . 522 | | | USED 3 | | | | воттом | B1 | B2 | В3 | BAL | - | - | - | |
| | | Aun | | | | | - | - | - | - | | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB23 | | NOT | USED | | | | - | - | - | - | EA END | - | - | - | |
| | | | USLD | | | | ВОТТОМ | B1 | B2 | В3 | BAL | - | - | - | |
| | | | | | | | - | - | - | - | | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB24 | 1 | 24X36 | 402 | 18 | 4.5 | 18 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2" | |
| | | | | | | | BOTTOM | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (2) #8 | - | - | - | 100 | 0.75 | T) (DE | 054000 | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB25 | 1 | 24X36 | 402 | 18 | 4.5 | 18 | (2) #8 BOTTOM | - B1 | - B2 | - B3 | EA END BAL | #4 #4 | S1 S2 | (1) @ 2" BAL @ 12" | |
| | | | | | | | (2) #8 | | | | DAL | # 4 | 32 | BAL @ 12 | |
| | | | | | | | (2) #6 TOP | - T1 | - | - T2 | LOC | SIZE | TYPE | SPACING | |
| | | | | | | | (2) #8 | - | _ | - | EA END | | S1 | (1) @ 2", (5) @ 9" | |
| PB26 | 2 | 14x36 | 429 | 18 | 4.5 | 18 | BOTTOM | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| DD2- | 2 | 4404 | 400 | 40 | 4.5 | 40 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | |
| PB27 | 2 | 14x24 | 402 | 12 | 4.5 | 12 | воттом | B1 | B2 | B3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | | | | | |
| | | | | | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | |
| PB28 | 2 | 14x36 | 429 | 18 | 4.5 | 18 | (2) #8 | - | - | - | EA END | #4 | S1 | (1) @ 2", (5) @ 9" | |
| , DEO | _ | | | | | | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | | | | | (3) #9 | - | - | - | | | | | |
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4/10/2014

1 ADDENDUM #1

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501









| PROJECT | LEADER/ARCHITECT: |
|---------|-------------------|
| | GUIDON |

2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 317.800.6388 WWW.GUIDONDESIGN.COM SUSTAINABLE ARCHITECTURE + ENGINEERING

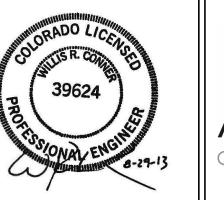
| <i></i> | ADDENDUM #1 | FOR | CONST | RUCT | |
|------------------------------|----------------------|----------------|-----------|------------|--|
| Drawing Title | Project Title | | | Project Nu | |
| POST TENSIONED | | | | 12.1 | |
| BEAM SCHEDULE | PARKING GARA | PARKING GARAGE | | | |
| | | | | Bldg | |
| Approved for Design Concept: | Location | | | Drawing Nu | |
| John Bartman | Grand Junction VA MC | | | | |
| John.Bartman@va.gov | Date | Checked By: | Drawn By: | 5-4 | |
| 970-263-5016 | 4/10/2014 | JAP | BGC | | |

OFFICE OF FACILITIES MANAGEMENT VA Project Number

Department of Veterans Affairs

| BEAM | BEAM | SIZE | LONGITUD | INAL REIN | NFORCEM | 1ENT | | | DEMARKO | | |
|-----------|------|-----------------------|----------|--------------|---------|------|----------|------|---------|-----------|-------------------------------------|
| MARK TYPE | | WIDTH x DEPTH (IN) | CONT | T ADDITIONAL | | | STIRRUPS | | | REMARKS | |
| | | | TOP | T1 | - | T2 | LOC | SIZE | TYPE | SPACING | UPTURNED BEAM |
| B1 | 2 | 18X52 | (4) #9 | - | - | - | EA END | #4 | S2 | (1) @ 2" | #5 SIDE BARS @ 12" OC, EACH SIDE |
| ы | | 10/102 | воттом | B1 | B2 | В3 | BAL | #4 | S2 | BAL @ 12" | |
| | | | (5) #9 | - | - | - | | | | | |
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Grand Junction VA
Medical Center
2121 North Avenue
Grand Junction, CO 81501









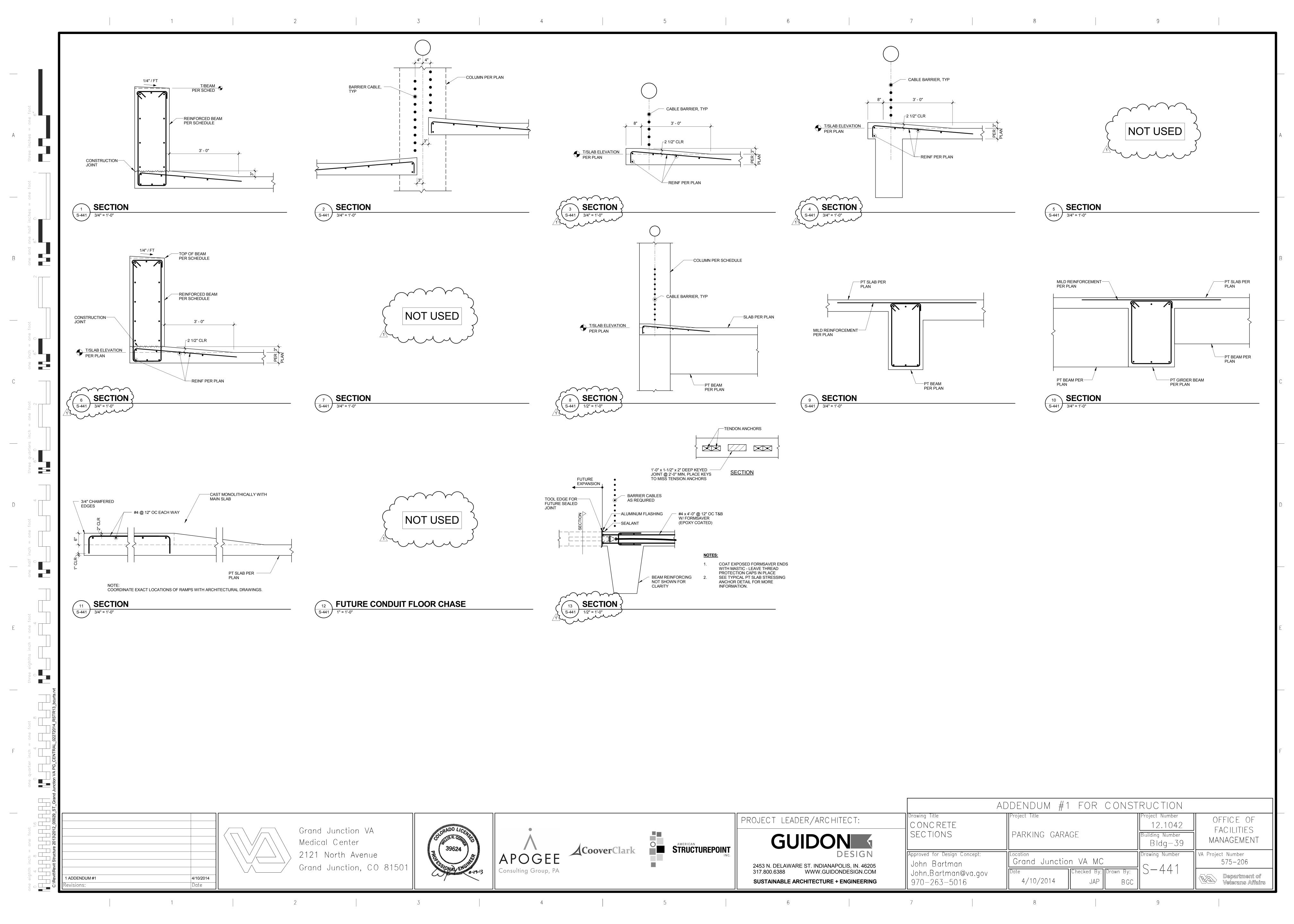
PROJECT LEADER/ARCHITECT:

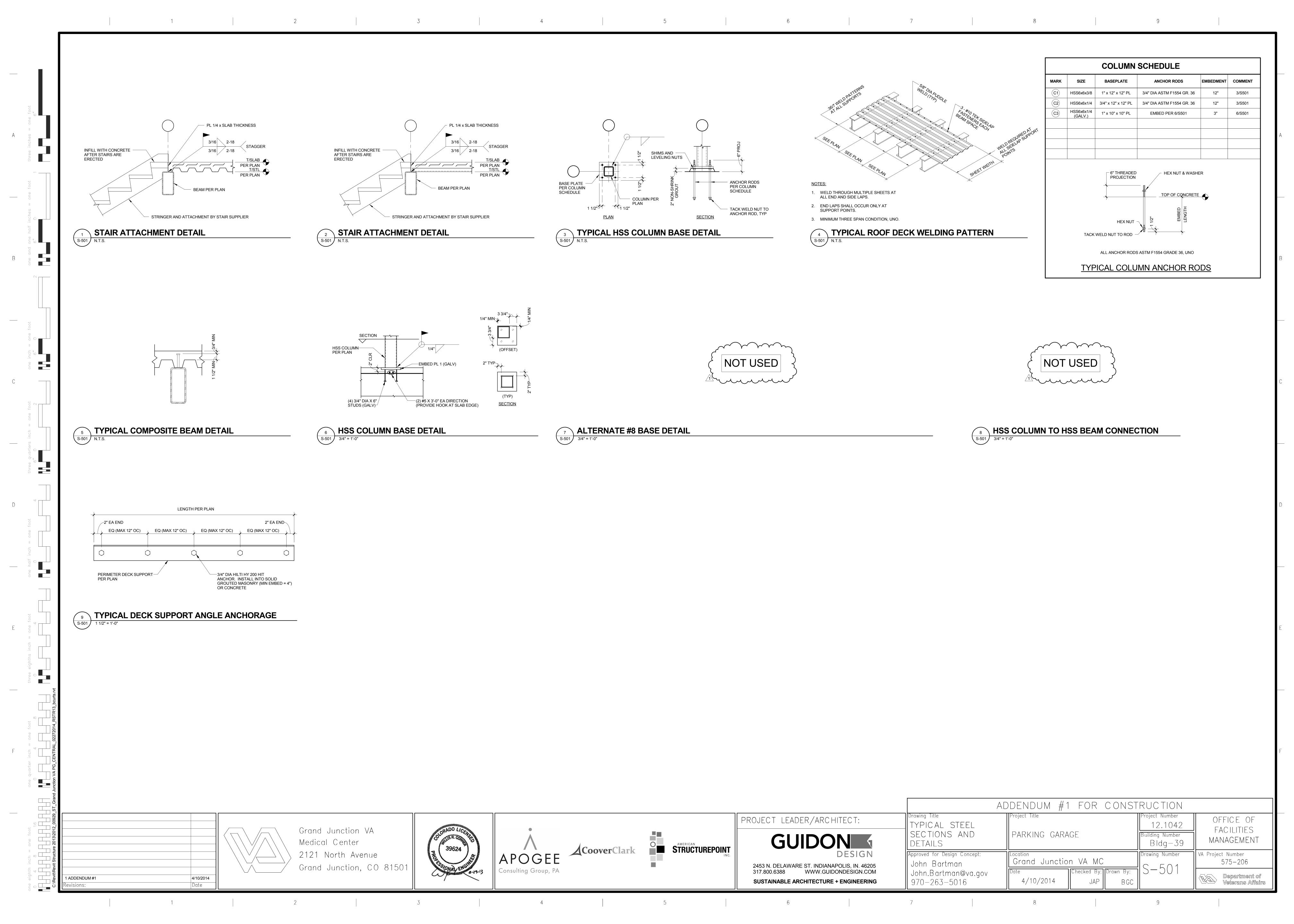
GUIDONES
DESIGN
2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205

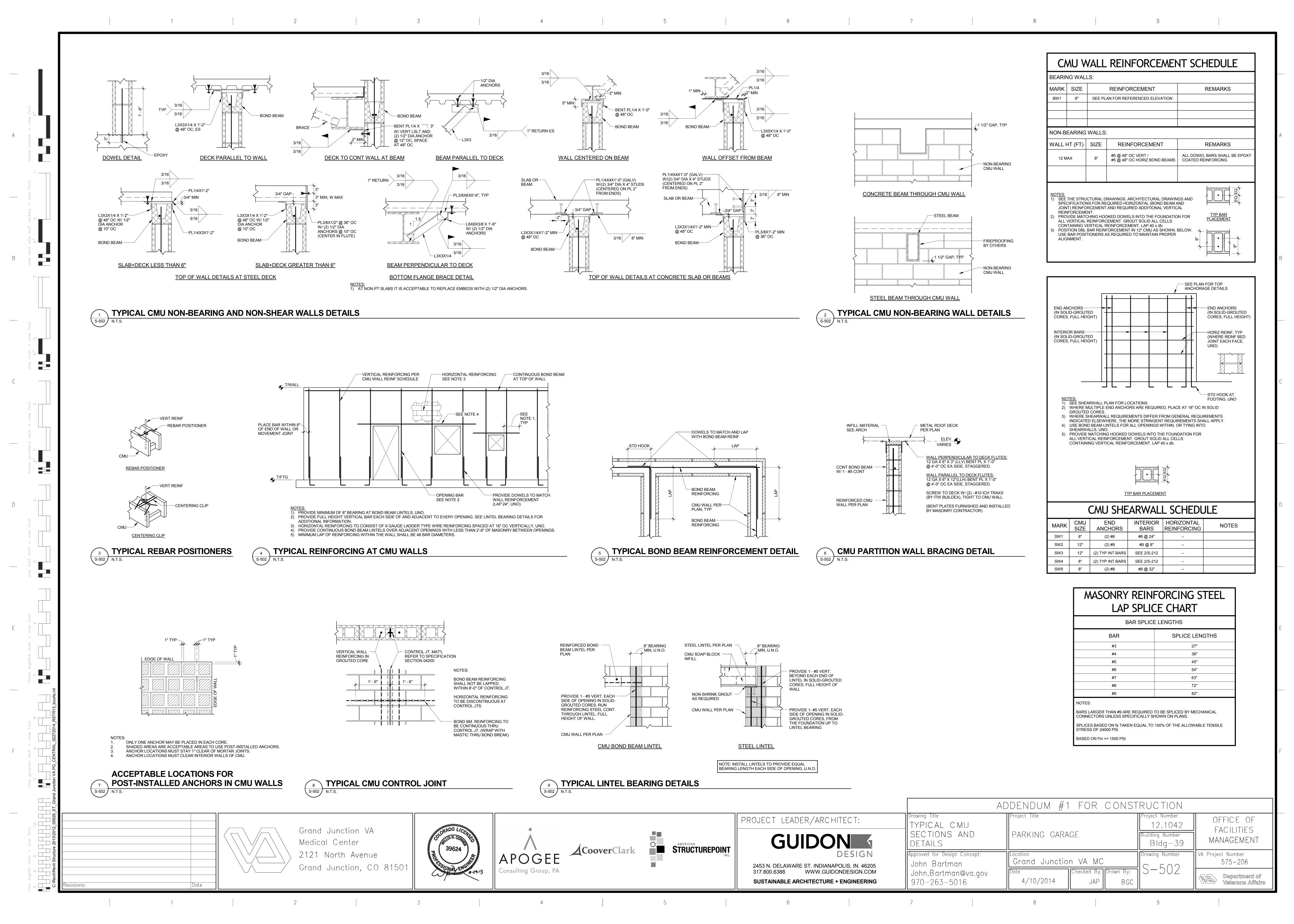
2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 317.800.6388 WWW.GUIDONDESIGN.COM SUSTAINABLE ARCHITECTURE + ENGINEERING

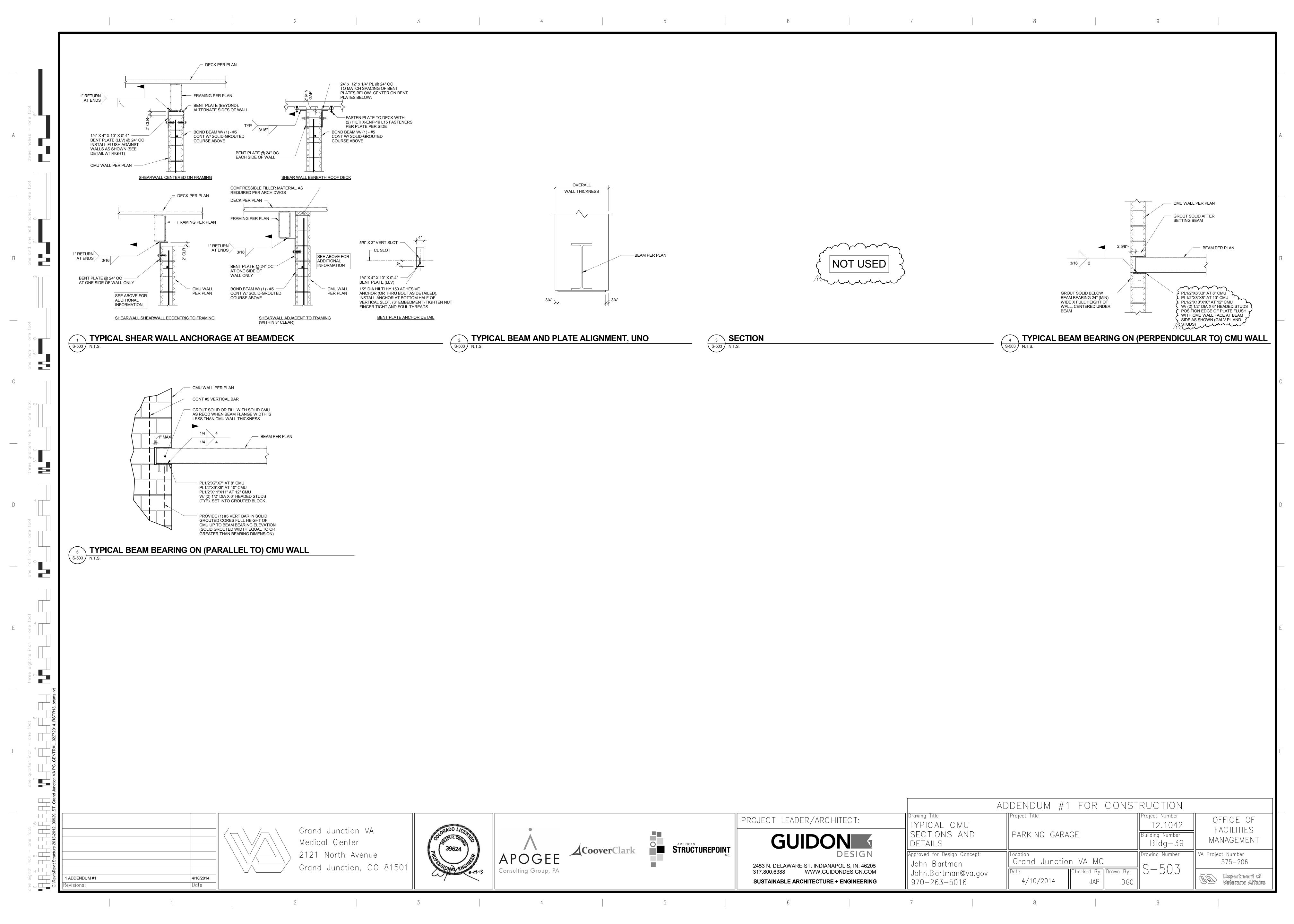
ADDENDUM #1 FOR CONSTRUCTION Drawing Title

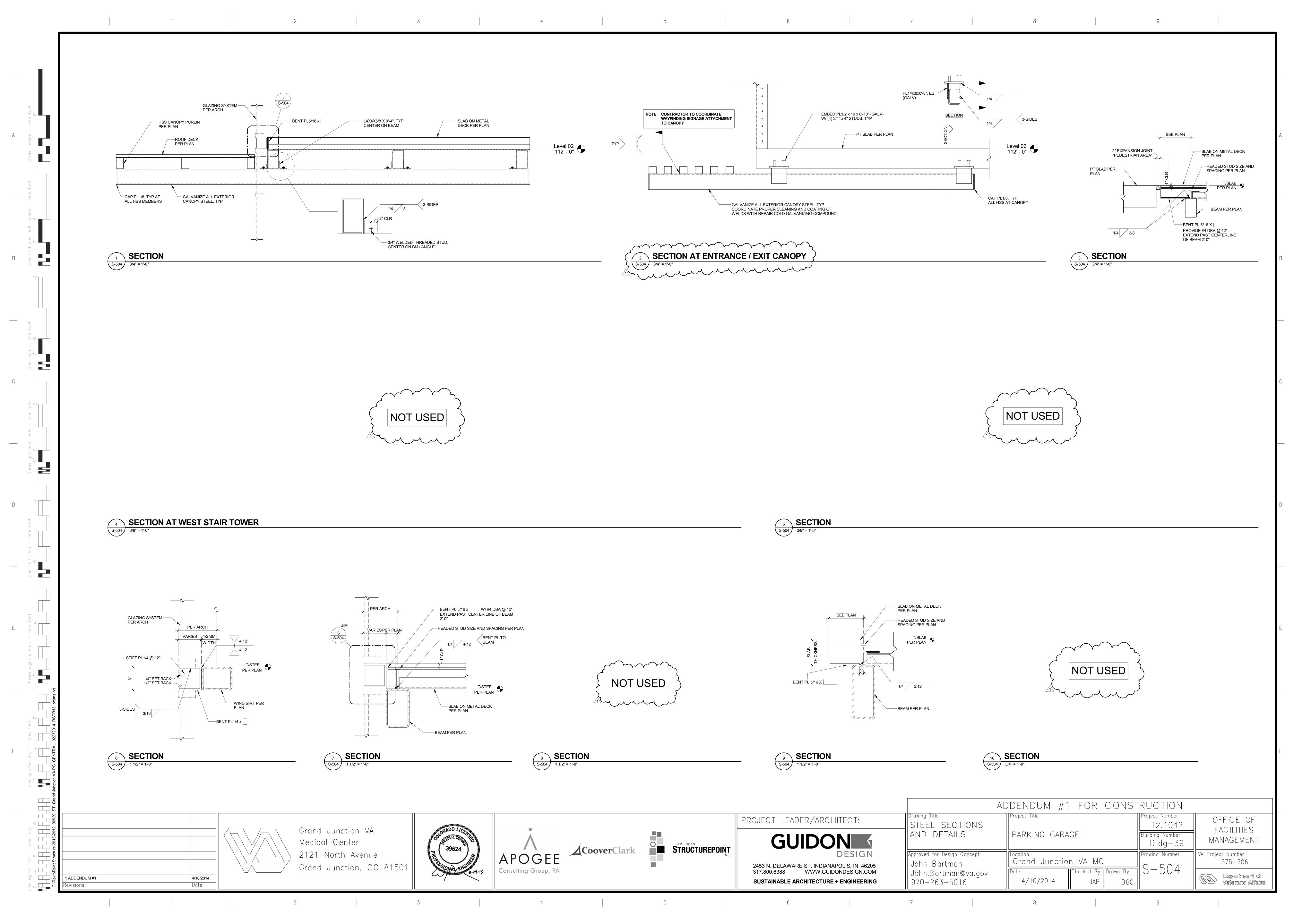
MILD REINFORCED OFFICE OF 12.1042 FACILITIES BEAM SCHEDULE PARKING GARAGE MANAGEMENT Bldg-39 Approved for Design Concept: VA Project Number 575-206 Drawing Number Grand Junction VA MC John Bartman John.Bartman@va.gov 970-263-5016 Department of Veterans Affairs 4/10/2014

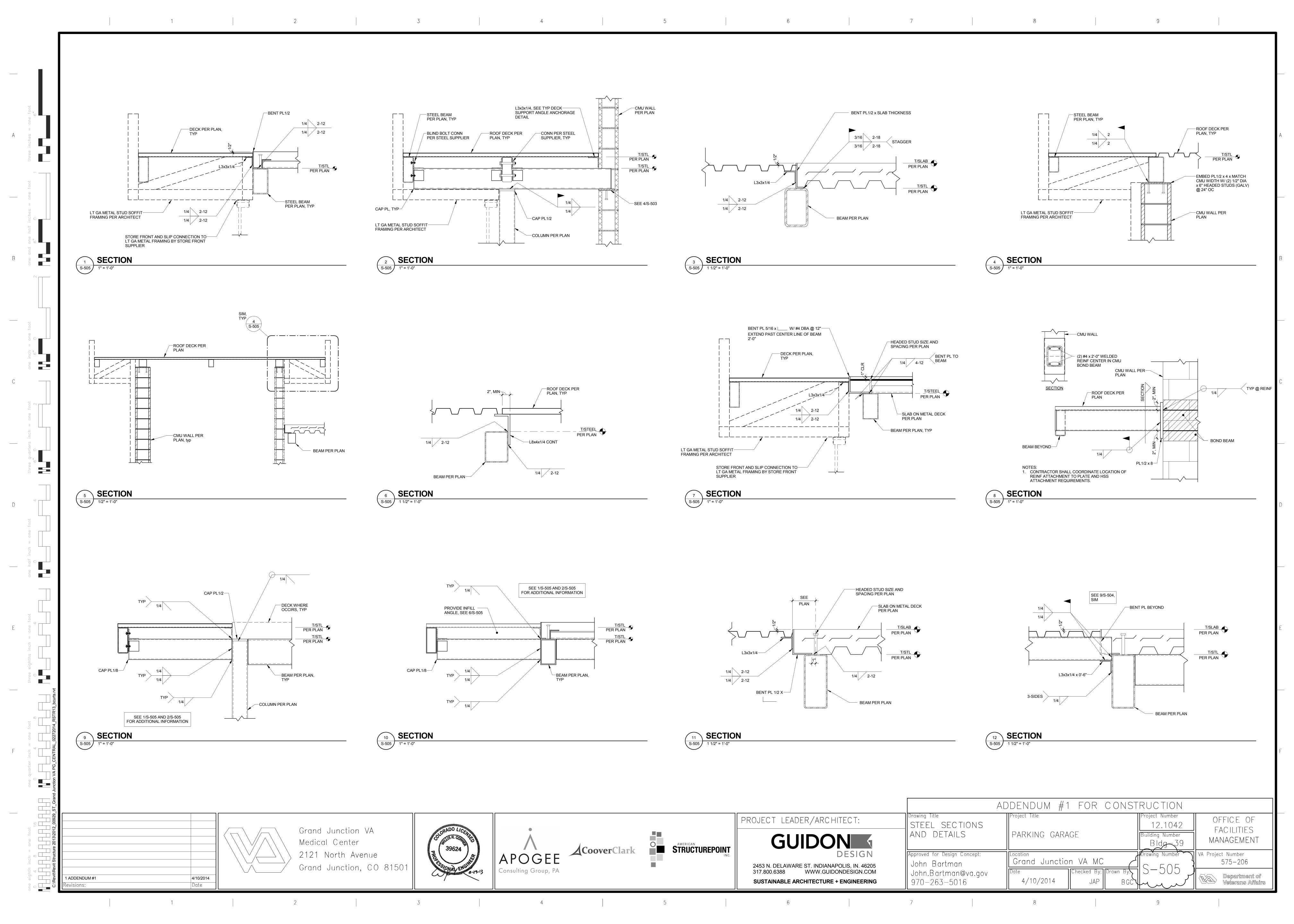


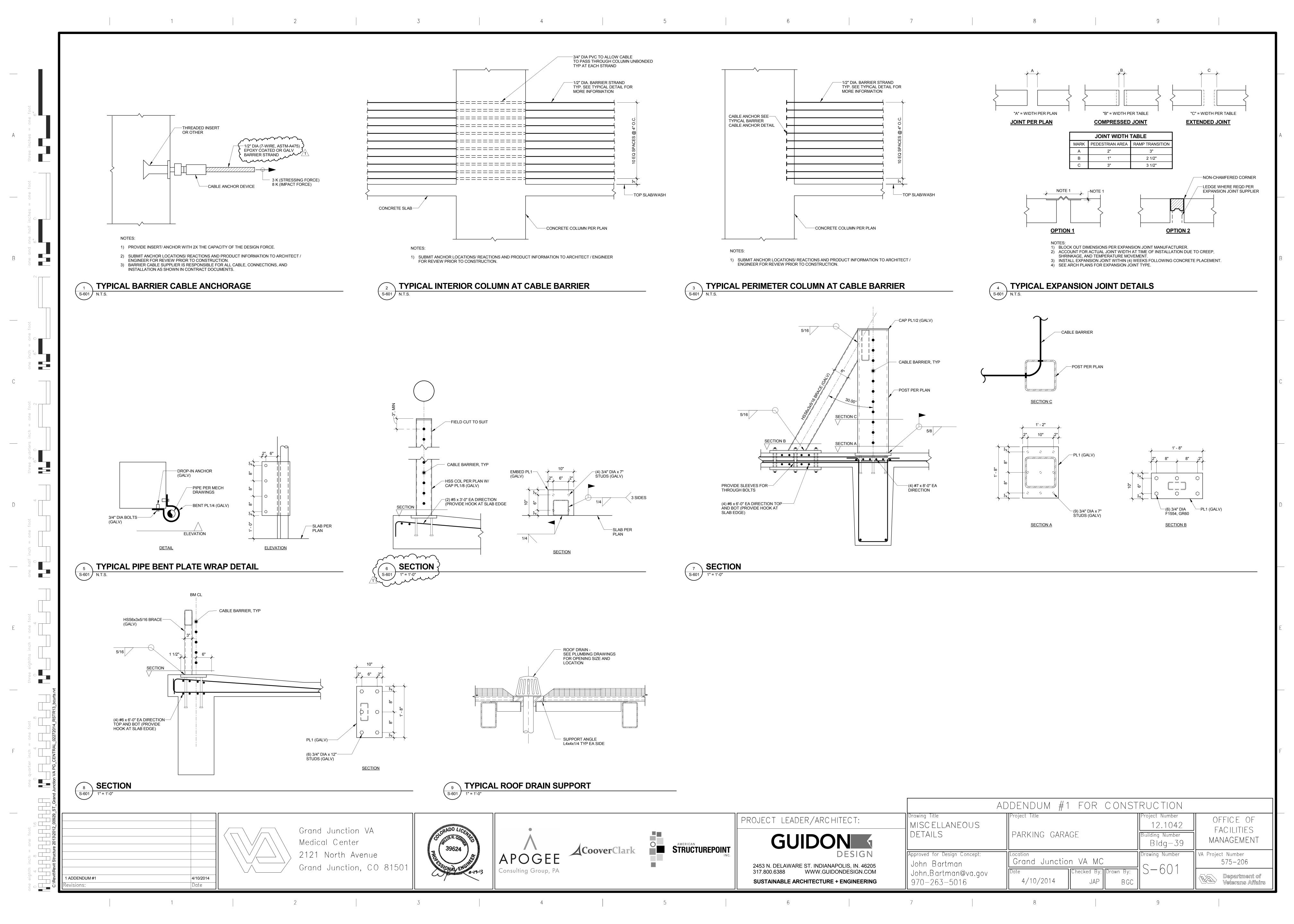












GENERAL NOTES:

GENERAL REQUIREMENTS

1. ATTENTION ALL USERS OF THESE DRAWINGS, GENERAL CONTRACTORS, SUB CONTRACTORS, MANUFACTURERS, SUPPLIERS: CAREFULLY AND THOROUGHLY REVIEW THESE GENERAL NOTES. IT IS YOUR RESPONSIBILITY TO KNOW AND ADHERE TO THESE REQUIREMENTS.

2. DO NOT PRESUME THAT YOUR SCOPE OF WORK IS SINGULARLY DEFINED. YOUR SCOPE OF WORK IS DEFINED THROUGHOUT THE ENTIRE SET OF DRAWINGS AND SPECIFICATIONS AND IS NOT CONTAINED IN JUST ONE SERIES OF DRAWINGS OR DIVISION OF SPECIFICATIONS. YOU MUST REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS TO DETERMINE YOUR SCOPE OF WORK.

3. EVERY EFFORT HAS BEEN MADE TO MAKE THESE DOCUMENTS CONCISE AND COORDINATED. TO DEFINE WORK IN THE MOST LOGICAL PLACE AND TO ELIMINATE REDUNDANCY. KEEP IN MIND HOWEVER THAT YOUR SCOPE OF WORK CAN BE CONTAINED IN VARIOUS PLACES, WITH VARYING DESCRIPTIONS. DO NOT CONSIDER THAT THERE IS ONE CUSTOMARY PLACE TO LOCATE YOUR WORK. THERE IS A DANGER OF OMITTING WORK FROM YOUR SCOPE BECAUSE THE ENTIRE SET OF DOCUMENTS WAS NOT REVIEWED.

4. MECHANICAL AND ELECTRICAL DRAWINGS SHOW INFORMATION IN A DIAGRAMMATIC FASHION WITHOUT DIMENSIONING. THE GENERAL CONTRACTOR IS TO COORDINATE THE LOCATIONS OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT WITH RESPECT TO THE ARCHITECTURAL AND STRUCTURAL DETAILING OF SHAFTS, CHASES, AND

5. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH SITE CONDITIONS AS THEY MAY AFFECT CARRYING OUT THE WORK AS DESCRIBED IN THESE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INVESTIGATE, VERIFY, AND BE RESPONSIBLE FOR ALL CONDITIONS OF THE PROJECT, AND NOTIFY THE ARCHITECT OF ANY CONDITIONS THAT REQUIRE MODIFICATION BEFORE PROCEEDING WITH THE WORK.

6. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, LABOR, AND SERVICES NECESSARY TO COMPLETE THE WORK.

7. ALL PERSONS DIRECTLY OR INDIRECTLY ASSOCIATED WITH THE PROJECT SHALL BE FAMILIAR WITH THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, AND IMPLEMENT THOSE RULES AS THEY APPLY TO THIS PROJECT.

8. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH THE BUILDING CODES AS NOTED ON CODE SHEETS.

CONTRACTOR SHALL SUBMIT CONFORMATION OF ORDERED MATERIALS OR ITEMS NECESSARY TO COMPLETE THE PROJECT WITH PROJECTED DELIVERY DATE GREATER THAN FOUR WEEKS.

10. ALL SUBCONTRACTORS SHALL SUBMIT

SHOP DRAWINGS AS REQUIRED FOR

APPROVAL PRIOR TO COMMENCING ANY WORK. 11. THE GENERAL CONTRACTOR SHALL BE

RESPONSIBLE FOR THE COORDINATION OF

ALL TRADES AND THE PREVENTION OF

CONFLICT BETWEEN ALL TRADES.

12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITY LINES. LOCATIONS SHOWN ARE APPROXIMATE. REPAIR ALL DAMAGE TO UTILITY LINES CAUSED BY CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.

CONSTRUCTION NOTES

1. PROVIDE SEALANT AT ALL JOINTS OR CRACKS WHICH OCCUR WHERE DISSIMILAR MATERIALS INTERSECT PERPENDICULAR TO EACH OTHER, AND THE INTERSECTION IS EXPOSED TO VIEW, UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

2. PAINT ALL EXPOSED STEEL UNLESS NOTED OTHERWISE.

3. WHERE DOORS DOORS IN PARTITIONS ARE NOT DIMENSIONALLY LOCATED ON THE PLANS PROVIDE A MINIMUM HINGE SIDE JAMB DIMENSION OF 6" FROM DOOR OPENING TO ADJACENT PERPENDICULAR WALL.

4. PROVIDE HOISTWAY BEAM AND REINFORCING AT TOP OF ELEVATOR SHAFT.

DRAWINGS AND DIMENSIONS

1. THE CONTRACT DOCUMENT DRAWINGS HAVE BEEN PREPARED USING REVIT SOFTWARE IN A MICROSOFT WINDOWS ENVIRONMENT. A BUILDING INFORMATION MODEL (BIM) WAS DEVELOPED SOLELY TO COMMUNICATE THE DESIGN TO THE OWNER AND IS NOT COMPLEMENTARY; ITEMS SHOWN IN ANY ONE LOCATION SUITABLE FOR ANY OTHER PURPOSE. FOR EXAMPLE THE REVIT MODEL IS NOT SUITABLE FOR COST ESTIMATING, SYSTEMS PERFORMANCE, COORDINATION, IN THE EVENT OF AN INCONSISTENCY BETWEEN THE SCHEDULING, OR FACILITIES MANAGEMENT.

2. THESE DOCUMENTS WERE PRODUCED USING THE CONSTRUCTION SPECIFICATIONS INSTITUTE'S UNIFORM DRAWING SYSTEM AND THE NATIONAL CAD STANDARD AS GUIDES.

3. ANY INDICATION OF PROJECT LIMITS OR LINES OF DEMARCATION ARE SHOWN FOR THE CONVENIENCE OF QUANTITY OF WORK. THE CONTRACTOR, AND ARE NOT TO BE TAKEN LITERALLY. ACTUAL CONTRACT LIMITS ARE TO BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE OWNER BEFORE ACTUAL CONSTRUCTION WORK BEGINS.

4. DRAWINGS ARE PREPARED USING DIMENSIONS AND PRODUCT CONFIGURATIONS OR DETAILS OF SPECIFIC MANUFACTURERS. DIMENSIONS AND DETAILS FOR SPECIFIC PRODUCTS MAY CHANGE BEFORE THEY ARE ACTUALLY INCORPORATED INTO THE WORK, AND PRODUCTS BY OTHER MANUFACTURERS MAY ALSO BE ACCEPTABLE. THEREFORE, ACTUAL INSTALLATION DETAILS AND DIMENSIONS MAY DIFFER FROM THOSE SHOWN. CONTRACTOR SHALL VERIFY INSTALLATION REQUIREMENTS FOR ALL PRODUCTS TO BE INCORPORATED IN THE WORK (INCLUDING PARTITION THICKNESSES FOR RECESSED OR SEMI-RECESSED PRODUCTS), AND IS RESPONSIBLE FOR ACCOMMODATING AND COORDINATING CHANGES TO OTHER MATERIALS OR PRODUCTS THAT ARE NECESSARY BECAUSE OF THESE DIFFERENCES.

5. THE DRAWINGS AND SPECIFICATIONS ARE SEPARATED INTO DISCIPLINES FOR THE CONVENIENCE. THE SEPARATIONS USED HEREIN ARE USED ONLY FOR IN NO WAY DO THEY DEFINE OR LIMIT THE SCOPE OR INTENT OF ANY PART OF THE DRAWINGS, OR OF THE DRAWINGS AND SPECIFICATIONS AS A WHOLE. THE FACT GROUT JOINT. ROUGH OPENINGS ALLOW FOR SHIM THAT THE DRAWINGS ARE SEPARATED IN NO WAY SUGGESTS THAT THE WORK IS NOT TO BE CONSTRUCTED AS A COMPLETE, INTEGRATED AND UNIFIED WHOLE.

6. THE DRAWINGS AND SPECIFICATIONS, INCLUDING DRAWINGS PREPARED BY SPECIFIC ENGINEERING DISCIPLINES (SUCH AS CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.) ARE IN THE DRAWINGS SHALL BE CONSIDERED TO BE REQUIREMENTS OF THE CONTRACT FOR CONSTRUCTION. DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT, THE CONTRACTOR SHALL SEEK CLARIFICATION OR INTERPRETATION FROM THE ARCHITECT PRIOR TO BIDDING. WHERE INCONSISTENCIES ARE NOT CLARIFIED PRIOR TO BIDDING, AND WHERE THE ACTUAL SOLUTION OR INTENT CANNOT BE REASONABLY INFERRED, THE CONTRACTOR SHALL PROVIDE THE BETTER QUALITY OR GREATER

7. USE OF THE WORD "VERIFY" POINTS OUT A SITUATION WHICH MUST BE CONFIRMED PRIOR TO PROCEEDING WITH THE WORK, FABRICATION OF EQUIPMENT, OR ORDERING MATERIAL. NOTIFY THE ARCHITECT OF ANY DISCREPANCY

8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ARCHITECT IMMEDIATELY SHOULD ANY DISCREPANCIES BE FOUND IN THE DRAWINGS AND SPECIFICATIONS.

9. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL FIELD CONDITIONS AND DIMENSIONS AS THEY RELATE TO THIS PROJECT. SHOULD DISCREPANCIES EXIST BETWEEN THE WORK INDICATED AND ACTUAL FIELD CONDITIONS NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.

10. DO NOT SCALE THE DRAWINGS. DRAWING SCALES AS INDICATED ARE FOR REFERENCE ONLY AND ARE NOT INTENDED TO ACCURATELY DEPICT ACTUAL OR DESIGNATED CONDITIONS. WRITTEN DIMENSIONS SHALL GOVERN.

11. ALL DIMENSIONS INDICATED ARE TO FACES OF THE PURPOSES OF CONVENIENCE AND REFERENCE AND CMU/STUD/STRUCTURAL MATERIALS OR COLUMN GRID LINES UNLESS NOTED OTHERWISE. MASONRY DIMENSIONS ARE MODULAR IN THAT THEY INCLUDE THE

> 12. THE TERM "ALIGN" REFERS TO LOCATING DIFFERENT COMPONENTS OF CONSTRUCTION TO PROVIDE A FI USH FINISH SURFACE

CODE ANALYSIS

A. Occupancy Classification

1. The parking garage is classified as low-hazard storage facilities, a Group S-2 Occupancy.

1. Enclosed Parking Structure: Any parking structure that is not an open parking structure

2. Open Parking Structure: A parking structure that meets the requirements of NFPA 88A Section 4.7.1. i. Each parking level shall have wall openings to the atmosphere for an area of not less than 1.4 square feet for each linear foot of the exterior perimeter.

ii. Opening shall be distributed over a minimum of 40% of the building perimeter or uniformly over two

iii. Interior wall lines and columns shall be at least 20% open, with openings distributed to provide

3. Ramp Type Parking Structure: A parking Structure that utilizes sloped ramps for vertical vehicle circulation.

B. construction classification

1. The parking garage is to be constructed in accordance with the provisions of NFPA 88A as defined in NFPA 220. Construction type for a building exceeding 25 feet in height shall be Type I, Type II(2) or Type II(1). An open parking garage of these construction types may be unlimited in height and area. 2. The Parking Garage has four levels above grade and is classified as an open parking structure. The

construction classification is Type IB based upon the occupancy and area of the building. 3. Primary structural elements of Type II (2) buildings will be 2-hour rated, primary structural elements supporting a roof only will be 1-hour rated, and all floor construction will have a fire resistance rating of 2-hours. Primary structural elements of Type II(1) buildings will be 1-hour rated. Primary structural elements supporting a roof only will be 1hour rated, and all floor construction will have a fire resistance rating of 1-hours. 4. Primary structural members are considered to be bearing walls, columns, and the girders, beams, trusses and

spandrels having direct connections to columns and bracing members designed to carry gravity loads. The members of floor or roof panels which have no connection to the columns and do not carry a gravity load are considered secondary members and are not part of the structural frame of a building.

C. FIRE RESISTANCE RATED SEPARATIONS

The Garages will be designed as nonseparated mixed uses. Incidental uses are not anticipated, so no fire rated separation is required between occupancies. Interior building elements that require fire resistance ratings are listed below:

| BUILDING ELEMENT Exit stair enclosures | FIRE RESISTANCE RATING Open (1,2) | CODE REFERENCE NFPA 88A, 4.1.5 |
|---|--------------------------------------|-----------------------------------|
| Exit stair enclosures | Open (1,2) | NFPA 88A, 4.1.5 |
| Ramps | Open (1,2) | NFPA 101 42.8.3.1.1 |
| Mechanical Exhaust and Supply duct systems where the duct system is located within the garage and serves only the garage | 0 | IBC 708.2 Excep. 15 |
| Other shafts which connect 2 or more stories | 2 (1) | NFPA 101 42.8.3.1.1 |
| Elevator machine rooms | 2 | IBC 3006.4 |
| | | |

1 Supporting structural members (located within one structural bay) must have the same fire resistance rating. The fire resistance rating must be carried through all structural members; extending to the foundation. In addition, the shaft construction must maintain the same fire rating as the floor construction.

2 Where nonrated walls or unprotected openings enclose the exterior of the stairway and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees, the building exterior walls within 3.048 m (10 ft) horizontally of a nonrated wall or unprotected opening must have a fire resistance rating of not less than 1-hour. Openings within such exterior walls must be protected by opening protectives having a fire protection rating of not less than ¾-hour. This construction must extend vertically from the ground to a point 3.048 m (10 ft) above the topmost landing of the stairway or to the roof line, whichever is lower.

Fire barriers will extend from the top of the floor below to the underside of the floor or roof deck above. The openings and penetrations in required exit enclosures will be protected with self-closing or automatic-closing opening protectives. Openings in fire resistance rated walls will be protected in accordance with the following:

FIRE DOOR ASSEMBLIES COMPONENT WALLS AND PARTITIONS (MIN) IBC 715 (HR) IBC 709 Elevator Hoistways, Elevator Machine Rooms Vertical Shafts (including enclosed exit stairways) Fire Barriers

MANUFACTURER'S TRADE NAMES AND NUMBERS USED HEREIN ARE ONLY TO IDENTIFY COLORS,

MANUFACTURER'S EQUIVALENT TO COLORS, FINISHES, TEXTURES AND PATTERNS OF MANUFACTURERS

LISTED THAT MEET THE REQUIREMENTS OF TECHNICAL SPECIFICATIONS IN EVERY RESPECT MAY BE

ACCEPTABLE WITH SUBMITTAL OF A COMPLETED SUBSTITUTION REQUEST CONTAINING ALL PRODUCT

DATA, TESTING AND ACTUAL SAMPLES AND UPON APPROVAL IN WRITING BY CONTRACTING OFFICER.

FINISHES, TEXTURES AND PATTERNS AS THE OF DESIGN. PRODUCTS OF AUTHORIZED EQUAL

Piping, conduit, and wire penetrations of fire rated construction will be protected by materials or systems of the same hourly rating listed by Underwriters Laboratories (UL), Factory Mutual (FM), or a National Recognized Testing Laboratory (NRTL). Duct, air transfer openings, and other penetrations through floors, shaft enclosures and other fire rated construction will be protected in accordance with the IBC.

D. BUILDING PLACEMENT The code requires the exterior walls of buildings to be protected from one another based on the fire separation distance between buildings, or to a lot line. Fire separation distance is defined as the distance measured from the face of a building to

one of the following three points: 1. The closest interior lot line;

2. To the centerline of a street, an alley or public way, or;

3. To an imaginary line between two buildings on the property. No fire rated separation is required where the parking structure is separated by 10 feet. NFPA 88A 5.2.2

E. INTERIOR FINISH

Interior wall and ceiling finish to be designed in accordance with the NFPA 101. 1. Class A, B and C finish is permitted for interior walls and ceilings in rooms, and corridors. Class A or B finish is permitted for exits.

absorbent materials. Floor Finish shall not be less than Class II F. EGRESS LIGHTING AND EXIT SIGNAGE Emergency egress lighting will be provided throughout the common portions of the means of egress in accordance with The

2. Per the IBC Section 406.2.6 all floor surfaces shall be of concrete or other similar non-combustible and non-

Life Safety Code 1. These areas include drive lanes, corridors, exit access spaces within areas requiring two (2) or more means of egress, the lobby/entrance areas, exit stairs, and the exit discharge areas (including exterior locations until the public

2. Each required exit will be identified with an exit sign, including exit access, and within areas requiring multiple exits. Directional exit signs will also be provided to direct occupants toward the closest exit so that no occupant is more than 100 feet from an exit sign. 3. The egress lighting and exit signs will be provided with a secondary source of power in the event that the primary

power source is disrupted. The secondary power source will consist of either internal batteries or a connection to an emergency power system.

G. MEANS OF EGRESS

Means of egress shall be in compliance with LSC and as modified by NFPA 88A. Egress requirements are based upon a non-sprinklered building. Exits must be so located on each story such that the maximum length of exit access travel, measured from the most remote point within a story along the natural and unobstructed path of egress travel to an exterior exit door at the level of exit discharge, an entrance to a vertical exit enclosure, an exit passageway, a horizontal exit, an exterior exit stairway or an exterior exit ramp, may not exceed the distances allowed by the Code. Egress requirements are outlined below.

1. Maximum travel distance: open parking garage – 300 feet

2. Common path of travel: 50 feet

3. Dead ends: 50 feet

4. Number of exits: At least two exits shall be provided from every floor/tier. In certain conditions ramps may be substituted for an egress stair.

5. Egress Width Factor: LSC Table 7.3.3.1 requires a minimum egress width of 0.2 in per occupant for doors, ramps, and corridors and a minimum egress width of 0.3 in per occupant for stairs.

6. Occupant Load factor: LSC Table 7.3.1.2 requires an Occupant load factor of 500 s.f. per person be applied to storage use type facilities other than storage and mercantile occupancies. Parking garages are classified by chapter 42 of the LSC as storage type occupancies.

7. Remoteness of exits: Where two or more exits or exit access doorways are required from any portion of the exit access, at least two of the exit doors or exit access doorways must be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served

measured in a straight line between exit doors or exit access doorways. 8. Stairs Design (per the LSC 7.2.2):

Maximum Riser Height: 7 inches Minimum Tread Length: 11 inches

36 inches Minimum Stair Width: Guard: 42 inches (Required where elevation change exceeds 30 inches. Design shall prevent the passage of a

4 inch Sphere.) Handrail: 30-38 inches Minimum Clearance: 6 feet 8 inches (Measured vertically from nose of tread.)

Required at each floor level per LSC 7.2.2.5.4

Ramp Design: per the LSC 7.2.5): Maximum Slope:

Guard: 42 inches(Required where elevation change exceeds 30 inches. Design shall prevent the passage of a 4 inch Sphere.)

4 inch curbs required for drop off edge of ramp Handrail: 30-38 inches (required for ramps with more than a 6 inch rise.

H. EMERGENCY ELEVATOR OPERATION

Planned and Future elevator will have a smoke/heat detector, located in its respective lobby, on each floor level. Upon activation of a lobby or machine room smoke detector, the elevators served by that lobby or machine room will be recalled to the main level of the building, one at a time. In the event that the alarm is on this designated level, the elevators will be recalled one at a time to an alternate level. It is proposed to recall only the elevator or group of elevators served by the affected lobby or elevator machine room.

After returning to the appropriate level, the elevators will stop, the doors will open, and the elevators will be rendered inoperable without the use of the fireman's key or until such time that they are manually reset to the normal operating mode. This mode of operation is provided for fire department use to allow for access to all levels served by the elevators.

K. PORTABLE FIRE EXTINGUISHERS

1. Portable fire extinguishers will be provided throughout the garages as required by IFC section 906.1 and spaced in accordance with NFPA 10, 2010 edition.



Date

8 10

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501



Emergency generator (if provided) 2



PROJECT LEADER/ARCHITECT:



2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 WWW.GUIDONDESIGN.COM 317.800.6388 **SUSTAINABLE ARCHITECTURE + ENGINEERING** Drawing Title GENERAL NOTES & CODE ANALYSIS Approved for Design Concept: John Bartman

970-263-5016

ADDENDUM #1 FOR CONSTRUCTION ||Project Title John.Bartman@va.gov

PARKING GARAGE

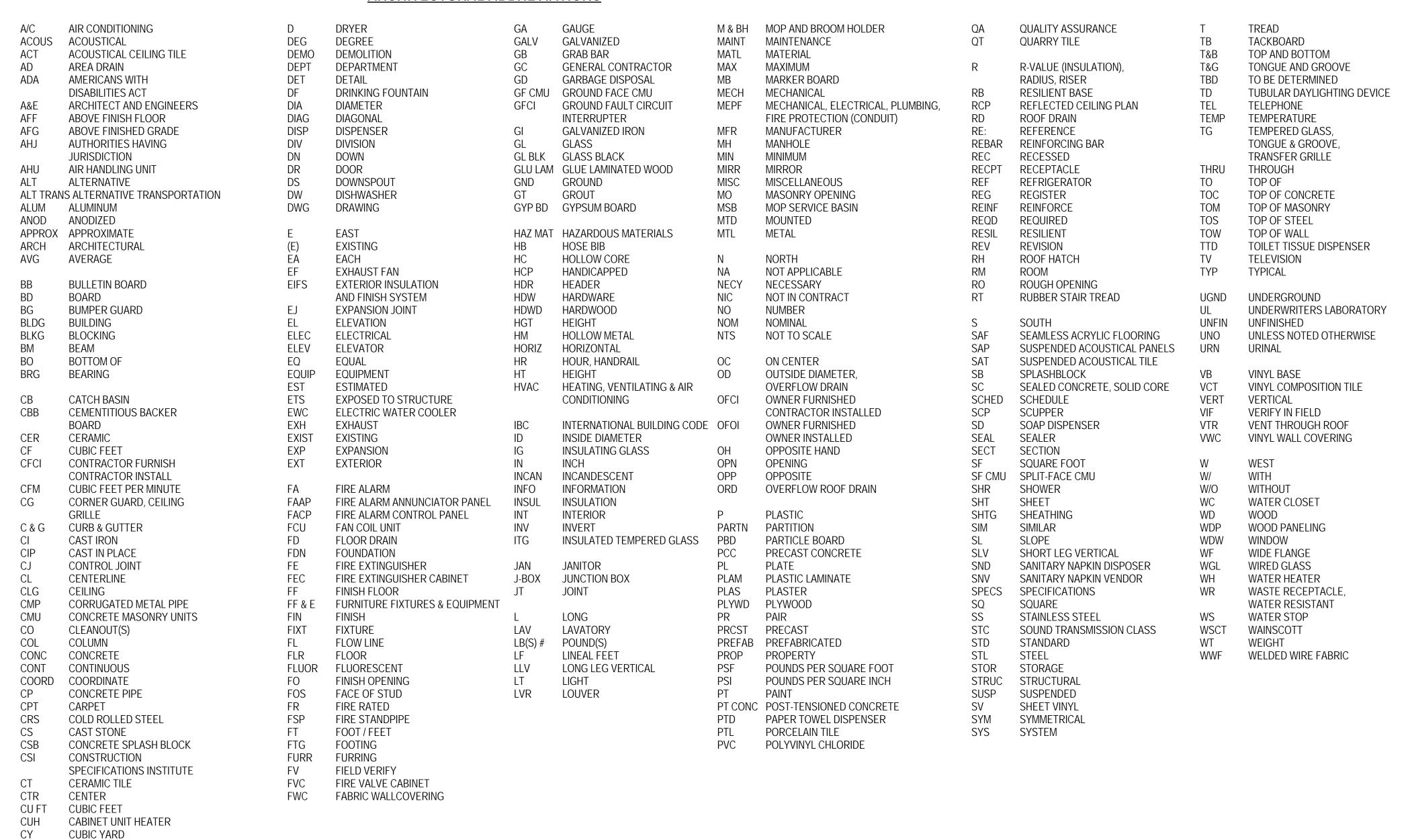
03/10/2014

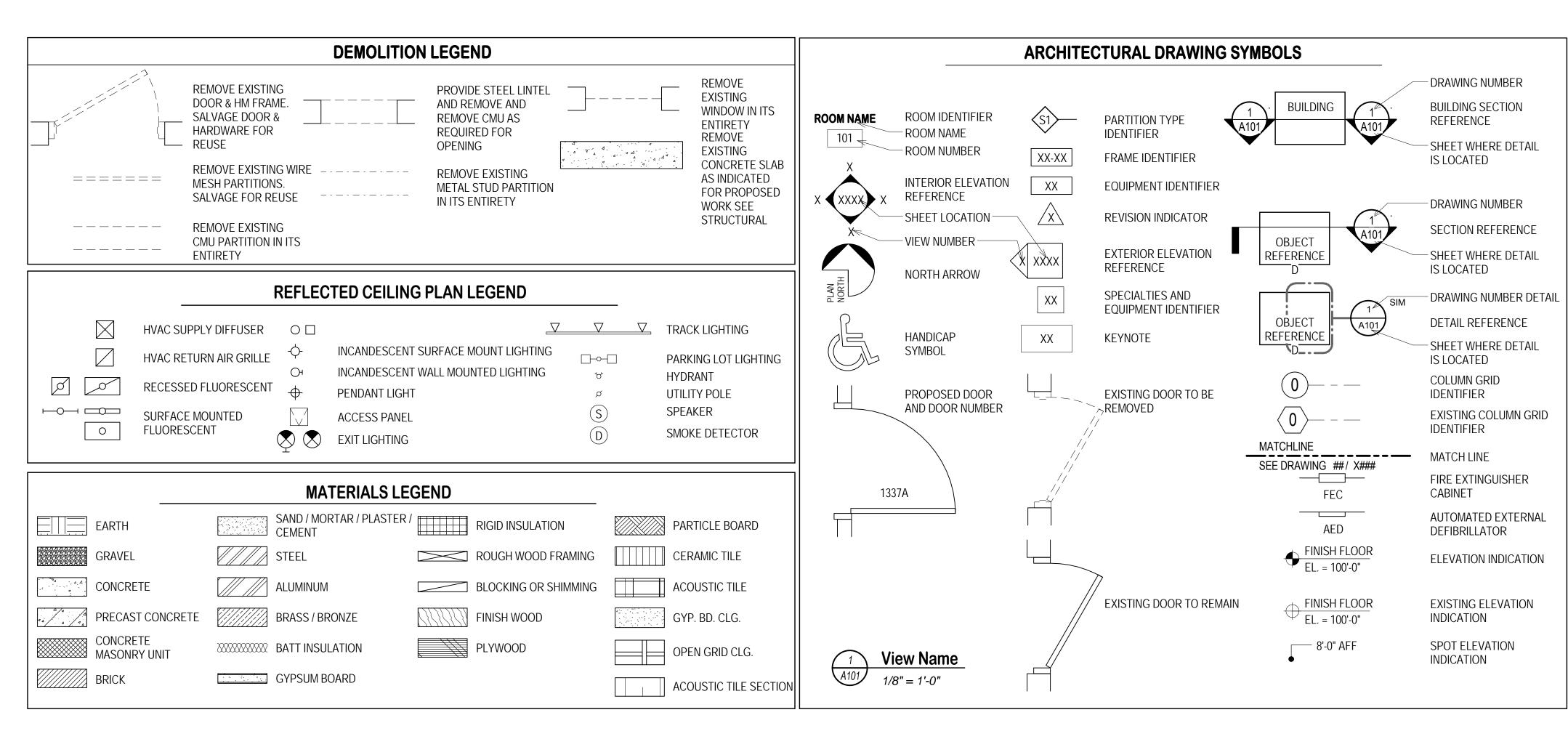
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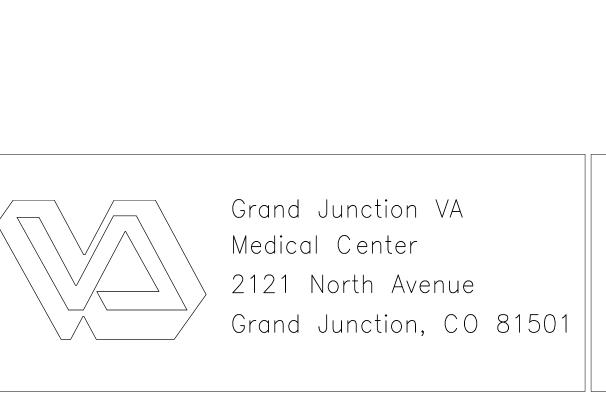
Project Number OFFICE OF FACILITIES MANAGEMENT VA Project Number 575-206 Department of

Veterans Affairs

ARCHITECTURAL ABBREVIATIONS







Date



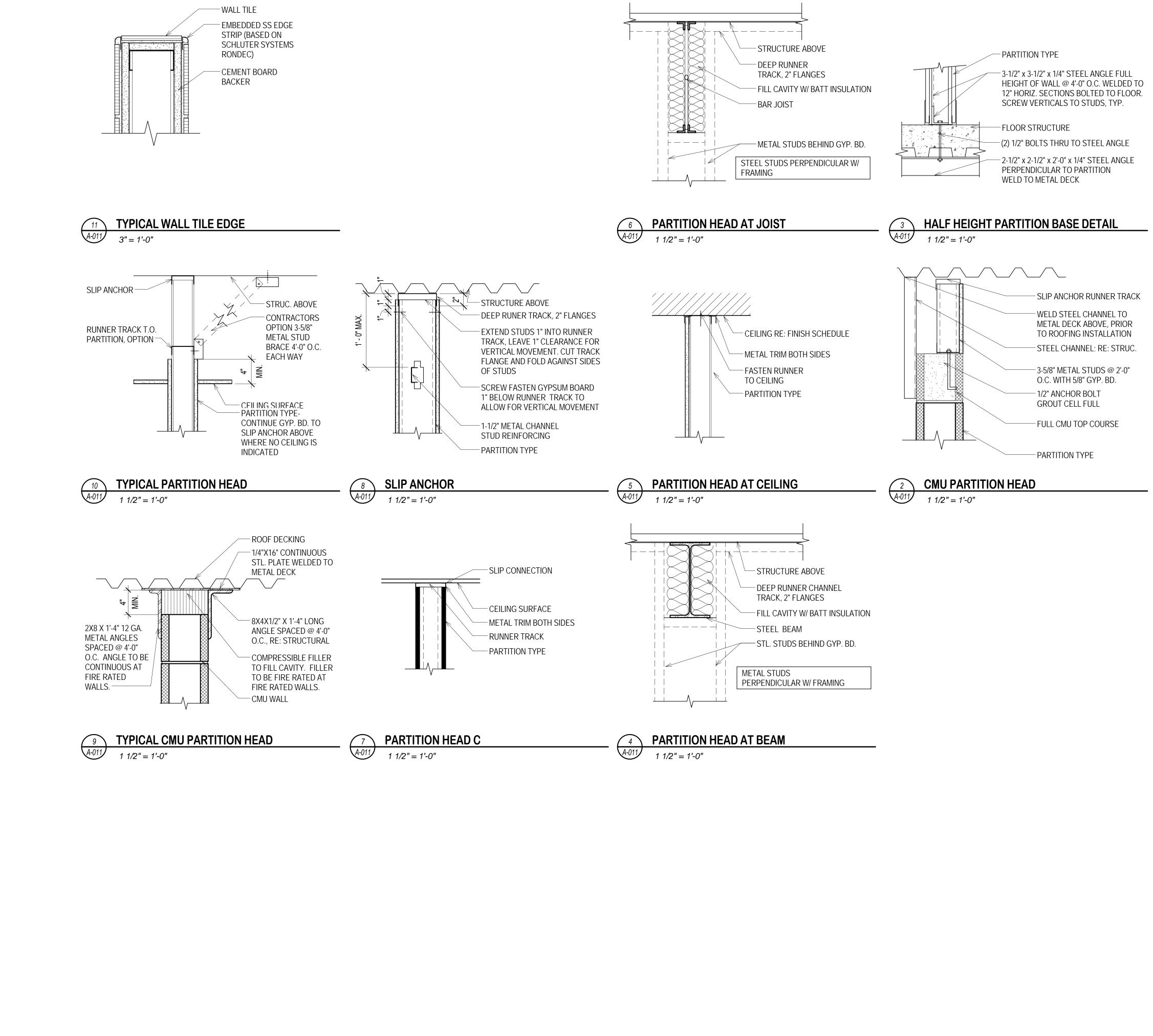






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| ADDENDUM #1 FOR CONSTRUCTION | | | | | | | |
|--|---|--|---|--|--|--|--|
| ing Title 3 BREVIATIONS & 7MBOLS | Project Title PARKING GARAGE | Project Number 12.1042 Building Number Bldg-39 | OFFICE OF FACILITIES MANAGEMENT | | | | |
| oved for Design Concept: hn Bartman hn.Bartman@va.gov 10-263-5016 | Checked By: Drawn By: 03/10/2014 UJ ARO | A-002 | VA Project Number 575-206 Department of Veterans Affairs | | | | |



PARTITION TYPE NOTES:

1. DIMENSIONS SHOWN ON PLANS ARE FROM FINISH SURFACE TO FINISH SURFACE. MASONRY DIMENSIONS GIVEN ARE NOMINAL. "MO" (MASONRY OPENING) REFERS TO NOMINAL OPENINGS IN MASONRY UNIT CONSTRUCTION. "RO" (ROUGH OPENING) REFERS TO ACTUAL OPENINGS BETWEEN METAL STUDS IN METAL STUD CONSTRUCTION.

PARTITION TYPES ARE INDICATED ON THE FLOOR PLANS. NUMBERS REFER TO THE PARTITION TYPE, LETTERS INDICATE VARIATIONS TO THE BASE CONDITION DRAWN. UNMARKED PARTITIONS SHALL MATCH ADJACEN PARTITION TYPE.

8. ALL PARTITIONS SHALL EXTEND STRUCTURE TO STRUCTURE UNLESS OTHERWISE NOTED. REFER TO PARTITION HEAD DETAILS.

4. FIRE-RATED PARTITIONS AND SOUND ISOLATION PARTITIONS ARE INDICATED ON REFLECTED CEILING PLANS.

CONSTRUCTION OF FIRE-RATED PARTITIONS, INCLUDING TAPING AND FINISHING OF GYPSUM BOARD FOR FULL HEIGHT TO STRUCTURE ABOVE SHALL BE IN ACCORDANCE WITH MANUFACTURERS DIRECTIONS TO ACHIEVE THE RATING INDICATED.

SOUND ISOLATION PARTITIONS SHALL BE SEALED AIRTIGHT FOR FULL HEIGHT TO PREVENT PASSAGE OF AIRBORNE SOUND. TAPE AND FINISH ALL GYPSUM BOARD JOINTS AND FASTENERS. PROVIDE SEALANT AT PERIMETER AND AT ALL PENETRATIONS.

. WHEREVER LENGTH OF MASONRY PARTITION EXCEEDS 8'-0" BETWEEN LATERAL SUPPORTS, INSTALL 3" x 3" x 0'-6" x 12 GAUGE FORMED STEEL ANGLES EACH SIDE AT 4'-0" O.C. MAX. ANCHOR EACH ANGLE TO STRUCTURE WITH TWO 1/8" X 15/16" DRIVE PINS. MASONRY SHALL STOP 1 FROM STRUCTURE, AND 1" SPACE SHALL BE FILLED WITH INCOMBUSTIBLE COMPRESSIBLE FILLER.

3. HOLLOW METAL FRAMES IN METAL STUD PARTITIONS SHALL HAVE 4 STUD ANCHORS PER JAMB MINIMUM FOR FRAME HEIGHT OF 7'-2" OR LESS, AND ONE ADDITIONAL ANCHOR PER JAMB FOR EACH ADDITIONAL 2'-0" OR FRACTION. HOLLOW METAL FRAMES IN MASONRY SHALL HAVE 3 MASONRY ANCHORS PER JAMB MINIMUM FOR FRAME HEIGHT OF 7'-4" OR LESS, AND ONE ADDITIONAL ANCHOR PER JAMB FOR EACH ADDITIONAL 2'-0" OR FRACTION. ALL HOLLOW METAL FRAMES SHALL HAVE ONE FLOOR CLIP PER JAMB, WITH TWO ANCHORS INTO FLOOR AT EACH FLOOR CLIP.

9. PROVIDE JOINT REINFORCEMENT IN ALL MASONRY PARTITIONS, CONTINUOUS HORIZONTALLY AND SPACED NOT OVER 16" ON CENTER VERTICALLY, BEGINNING WITH THE JOINT 8" ABOVE THE FLOOR AND IN THE FIRST AND SECOND JOINTS ABOVE AND BELOW OPENINGS EXTENDING NOT LESS THAN 24" BEYOND EACH SIDE OF THE OPENING.

10. PROVIDE FIRE-RETARDANT TREATED WOOD OR SHEET STEEL BLOCKING

FOR PARTITION MOUNTED EQUIPMENT AND CASEWORK.

11. PARTITION TYPES DESCRIBE THE PRIMARY MEMBER AND SHEATHING. REFER TO FINISH SCHEDULE FOR ALL PARTITION FINISH DESIGNATIONS.

12. PROVIDE TYPE WR WATER RESISTANT GYPSUM BOARD IN ALL WET AREAS SUCH AS TOILET ROOMS, SHOWER ROOMS, KITCHENS AND AT

13. PROVIDE 5/8" CONCRETE BACKER BOARD AT ALL CERAMIC TILE FINISHES TO ALIGN WITH 5/8" TYPE WR GYPSUM BOARD ABOVE.

14. PROVIDE SLIP JOINT CONNECTIONS AT THE TOPS OF ALL PARTITIONS WHICH INTERSECT THE STRUCTURE ABOVE. PROVIDE FIRE SAFING AT ALL SLIP JOINT CONNECTIONS IN FIRE RATED PARTITIONS.

15. WHERE NOTED TO PROVIDE SOUND ISOLATION MATERIAL IN WALLS, PROVIDE A STRIP OF ISOLATION BLANKET ABOVE THE CONJOINING WALLS.

16. PROVIDE 16 GA. SHEET METAL BLOCKING WALL SHEATHING AT ALL WALL MOUNTED ITEMS AT STUD WALLS AND PARTITIONS. ITEMS SUCH AS SHOWER SEATS AND GRAB BARS ARE TO BE ABLE TO WITHSTAND A

VERTICAL FORCE OF 250 LBS.

28' WALL

INTERIOR STUD SIZING GUIDE HEIGHT 3 5/8" STUD 6" STUD 12' WALL 362S125-30 @ 16" 600S125-30 @ 16" 362S162-43 @ 16" 600S125-30 @ 16" 16' WALL 20' WALL 362S162-68 @ 12" 600S125-33 @ 16" NA 600S162-43 @ 16" 24' WALL

NA

600S162-54 @ 12"

NOTE: THESE STUD SIZES ARE FOR REFERENCE ONLY. PROVIDE SHOP DRAWINGS FOR PROPOSED WALLS REQUIRING ADDITIONAL STUD ENGINEERING DUE TO STUD HEIGHT. INCLUDE STUD SPACING, GAUGE AND HEIGHT INFORMATION. PROVIDE MANUFACTURERS INFORMATION FOR SELECTED PRODUCTS.

PARTITION TYPE SUFFIX:

A. 11/2" SOUND ATTENUATION BLANKET FLOOR TO CEILING. WHERE PARTITION MEETS CEILING SYSTEM PROVIDE 1 1/2" SOUND ATTENUATION BLANKET ABOVE CEILING 2'-0" EACH SIDE OF PARTITION. SEE ACOUSTICAL

PARTITION HEAD.

B. PROVIDE 3 1/2" BATT INSULATION FLOOR TO CEILING/STRUCTURE.

C. PROVIDE 20 GA. METAL STUDS @ 16" O.C. D. PROVIDE 5/8" CEMENT BACKER BOARD AT CERAMIC TILE WITH 5/8" WATER

RESISTANT GYPSUM BOARD ABOVE.

E. PROVIDE 6" 25 GA. METAL STUDS AT 16" O.C.

F. PROVIDE 6" CONCRETE MASONRY UNITS.

Project Number

Drawing Title

Partition Types and Details

Approved for Design Concept:

PARKING GARAGE

Project Title

OFFICE OF 12.1042 FACILITIES Building Number MANAGEMENT Bldg-39 Drawing Number VA Project Number



Date

4 8 1000









PROJECT LEADER/ARCHITECT:

John Bartman

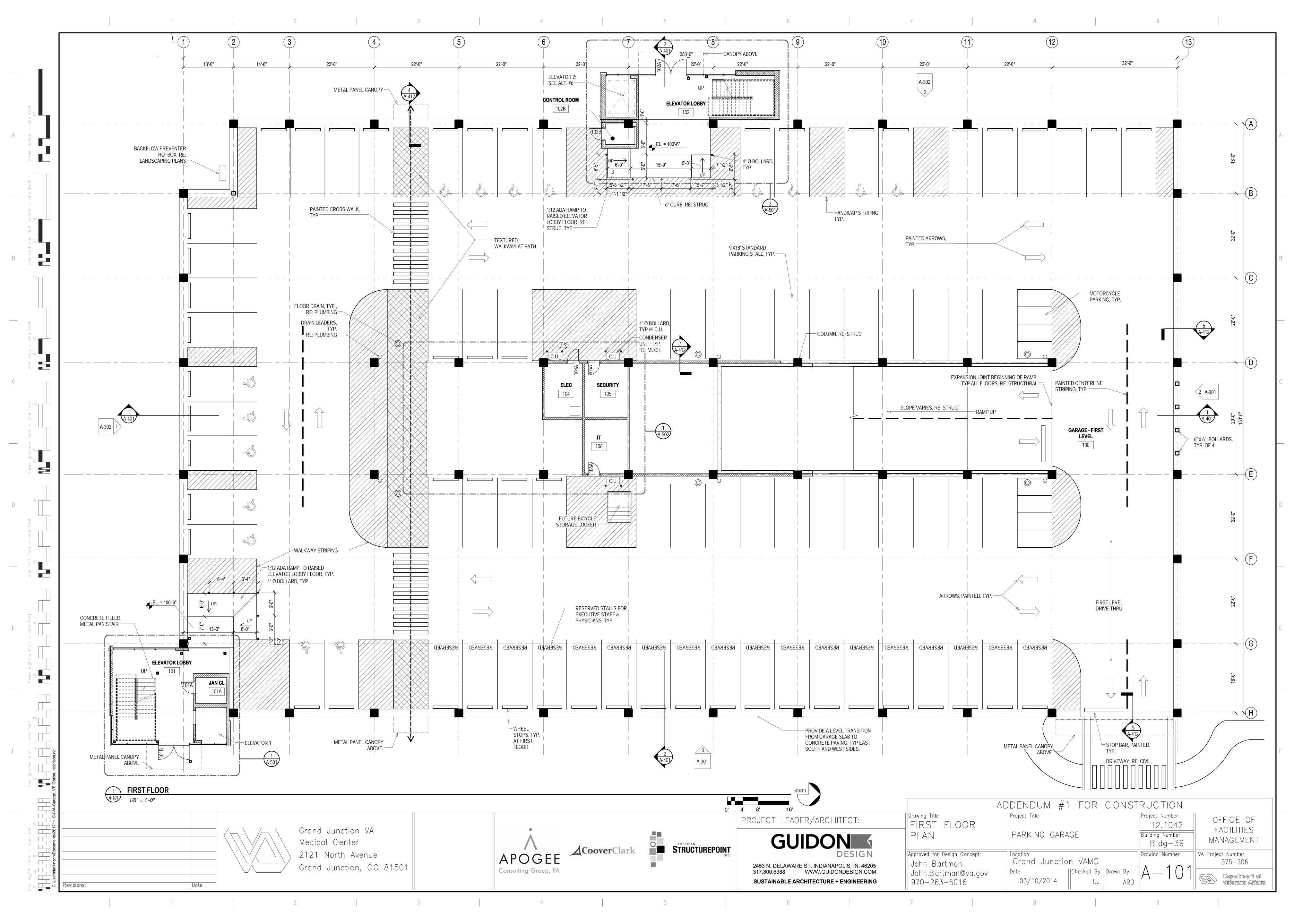
John.Bartman@va.gov 970-263-5016

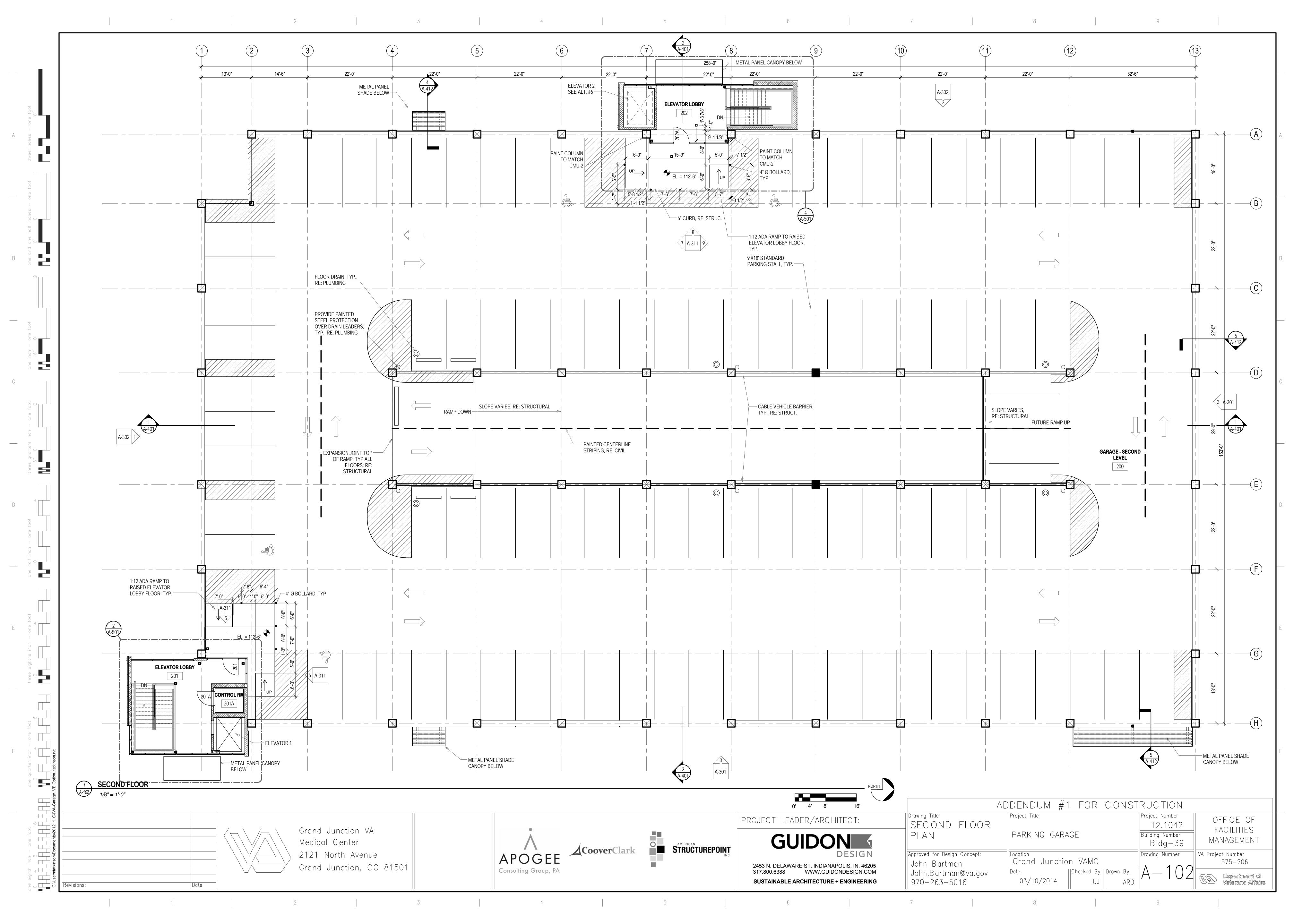
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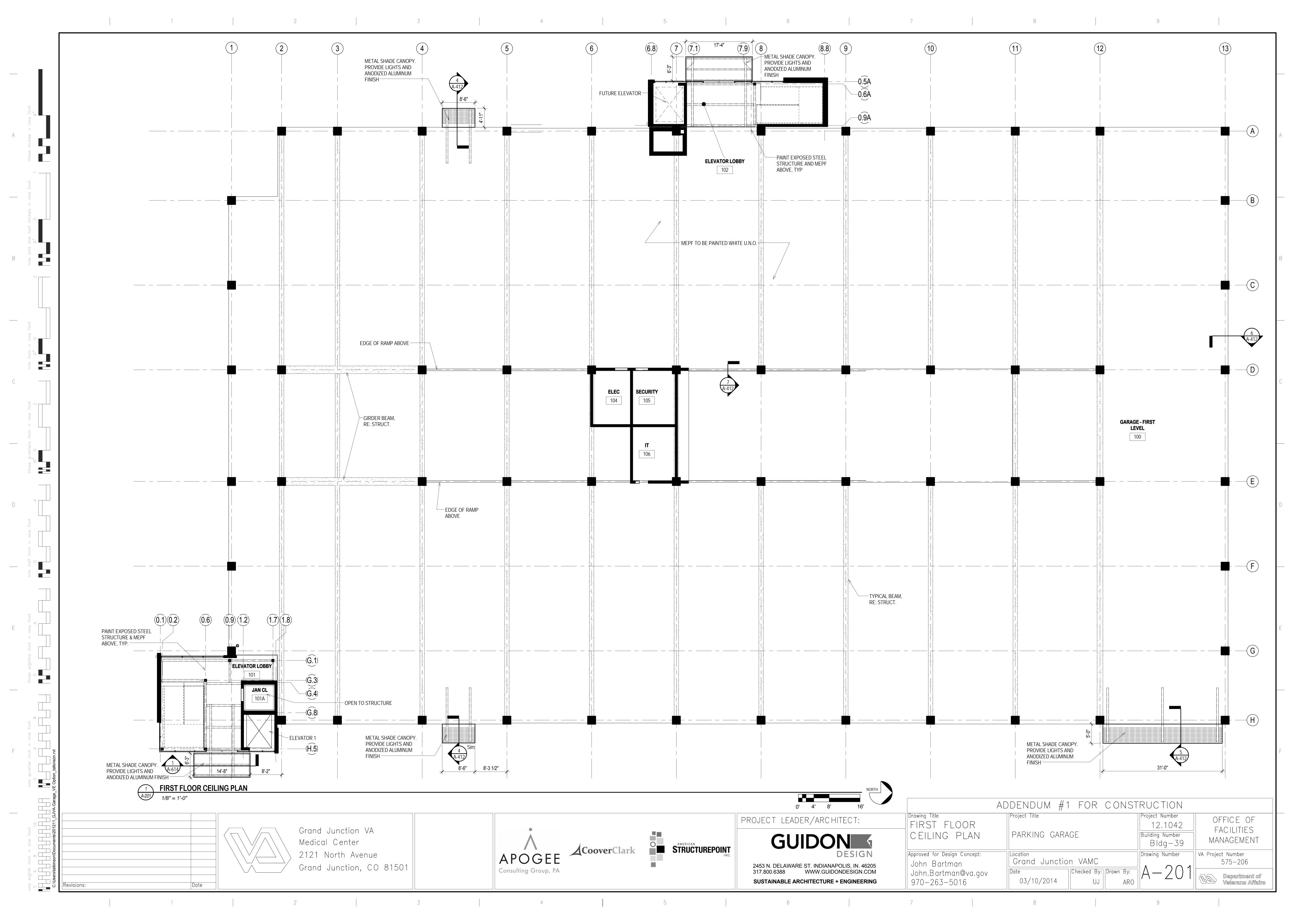
Grand Junction VAMC Checked By: Drawn By: 03/10/2014

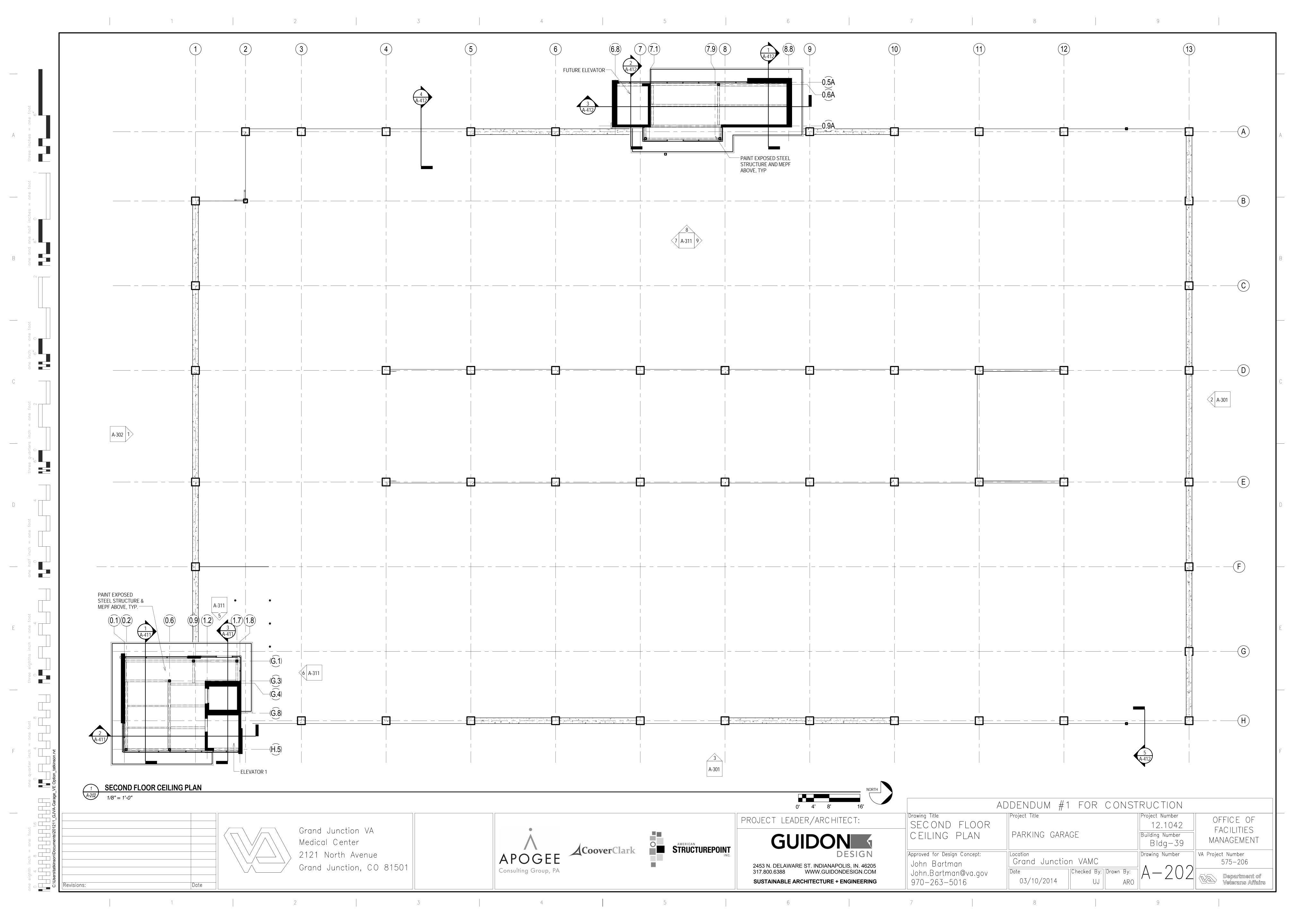
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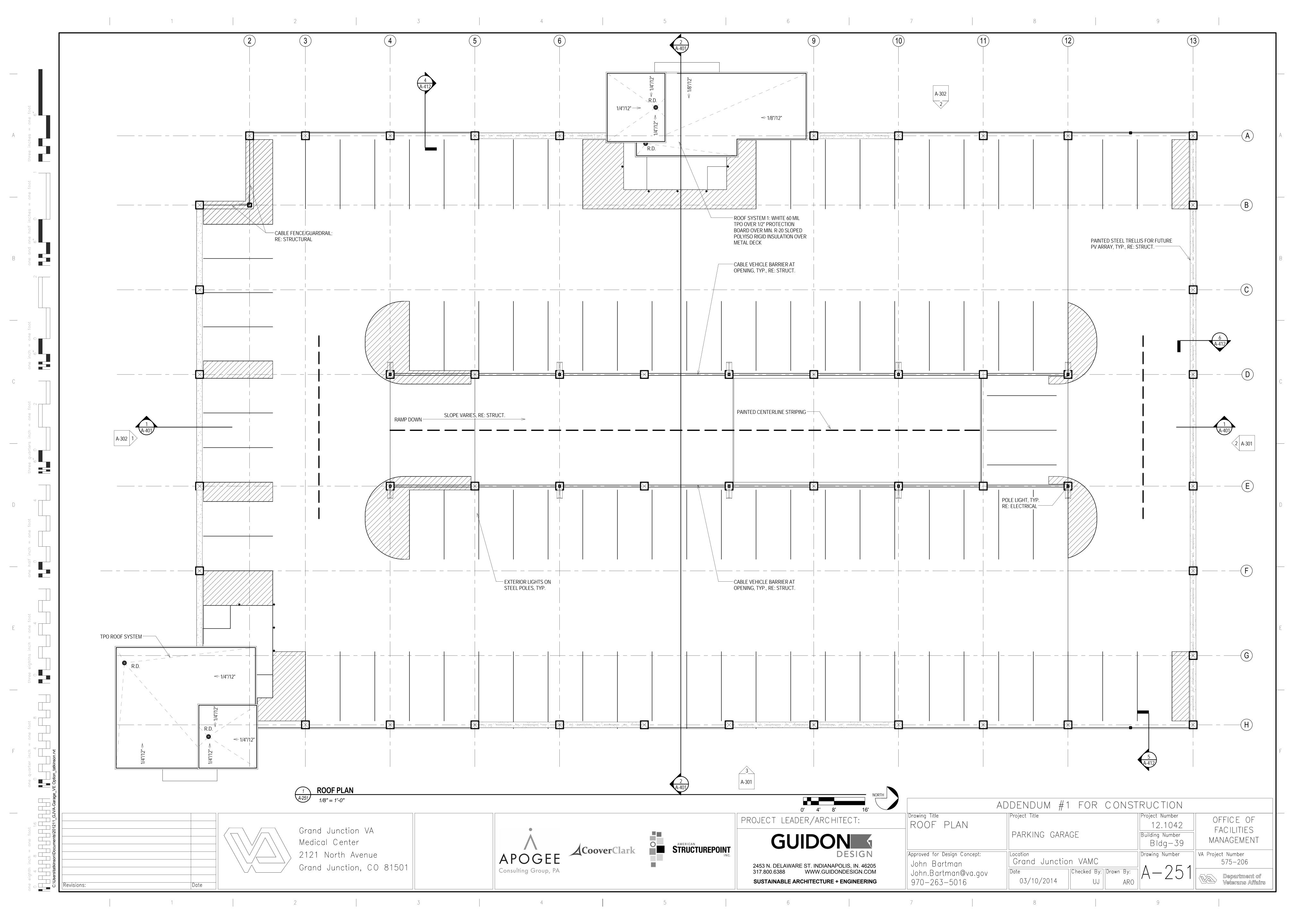
575-206 Department of Veterans Affairs

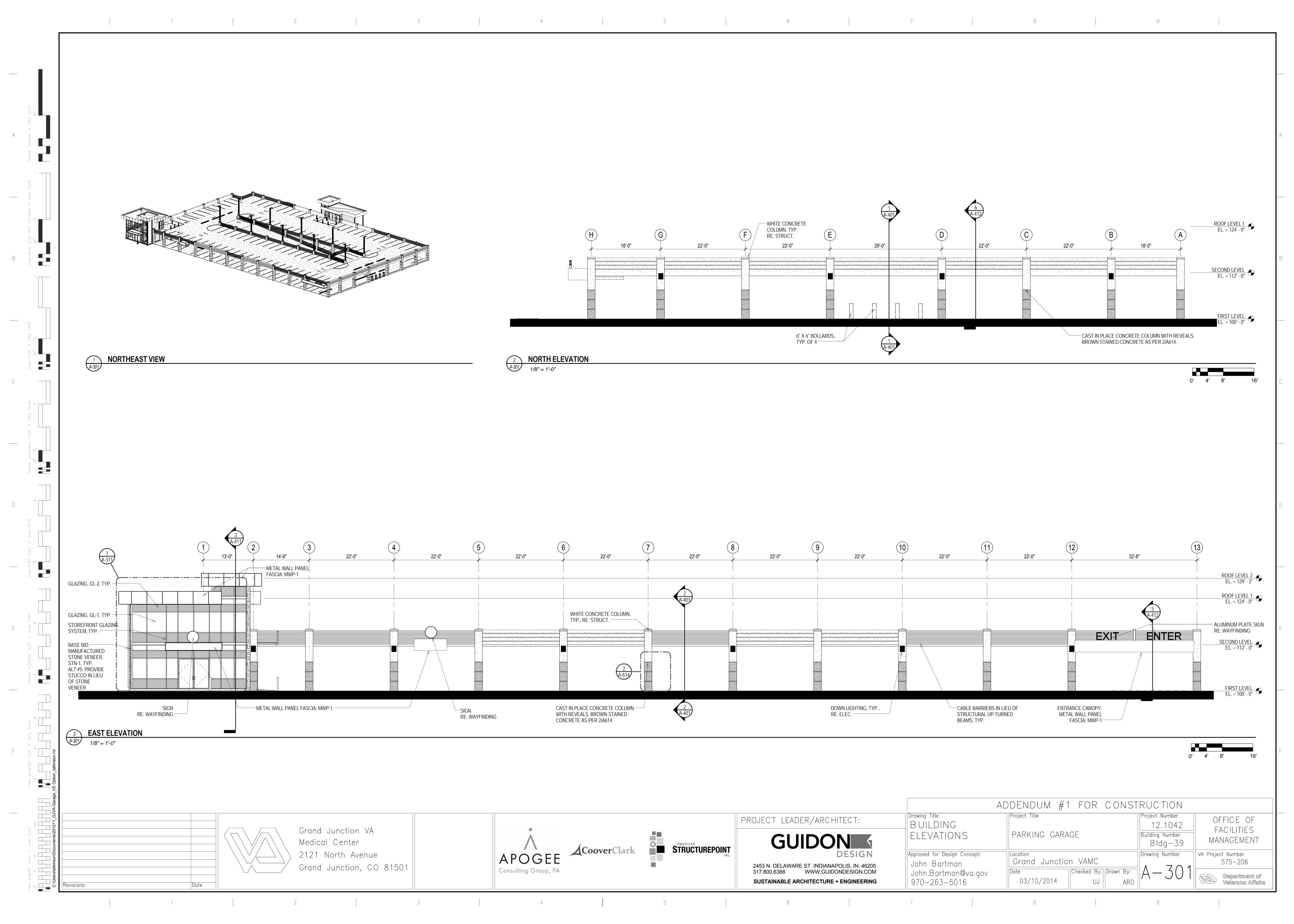


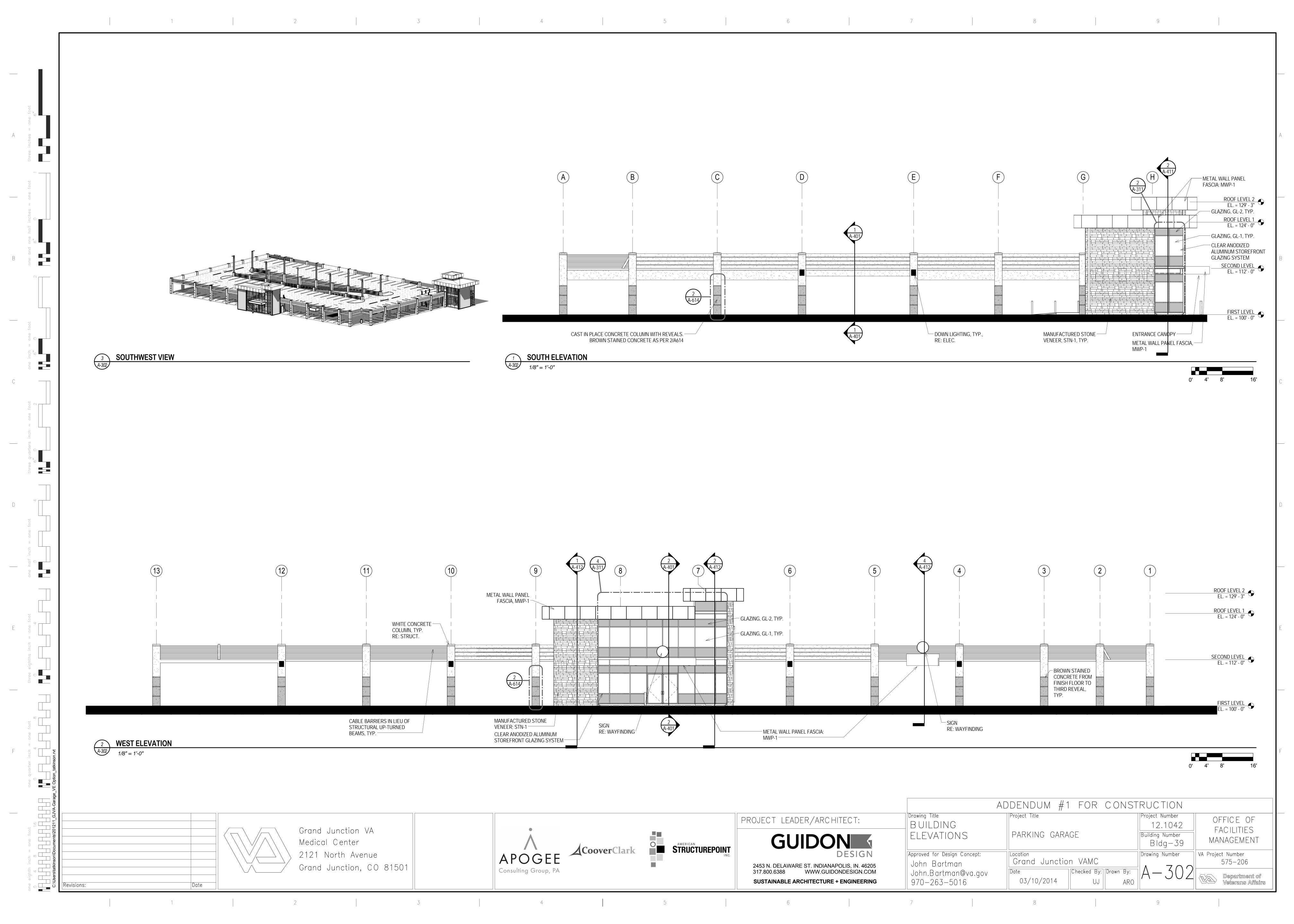


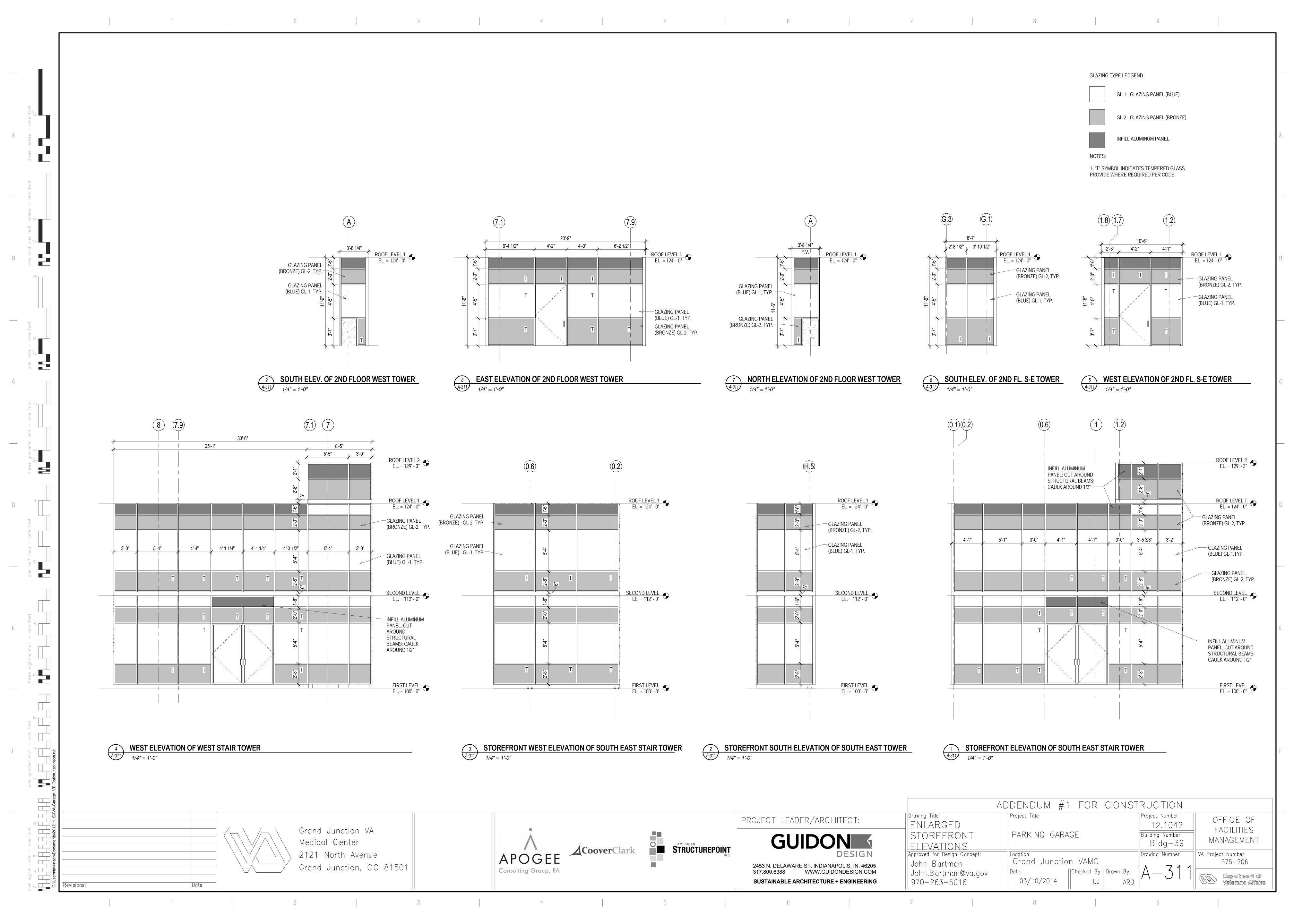


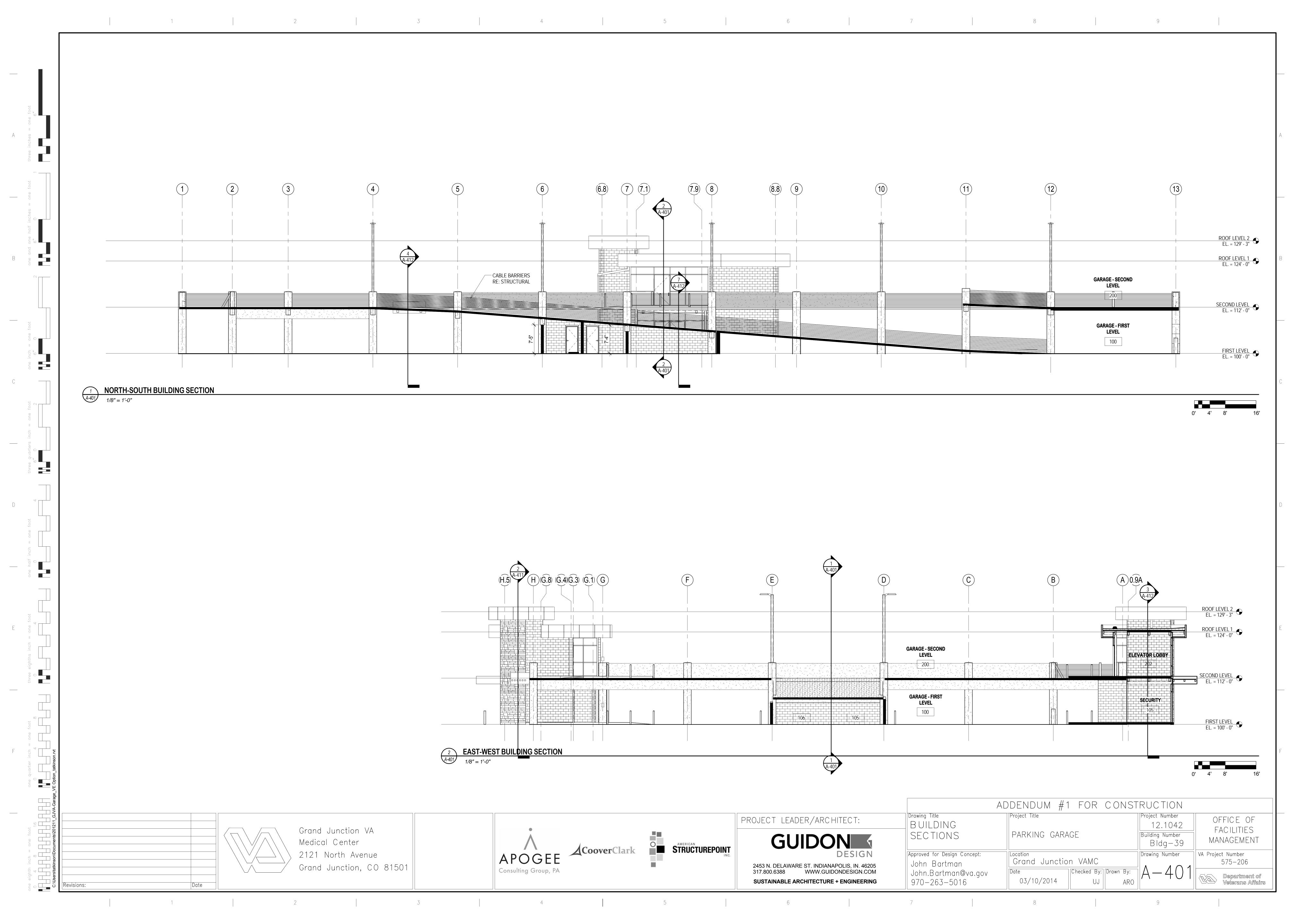


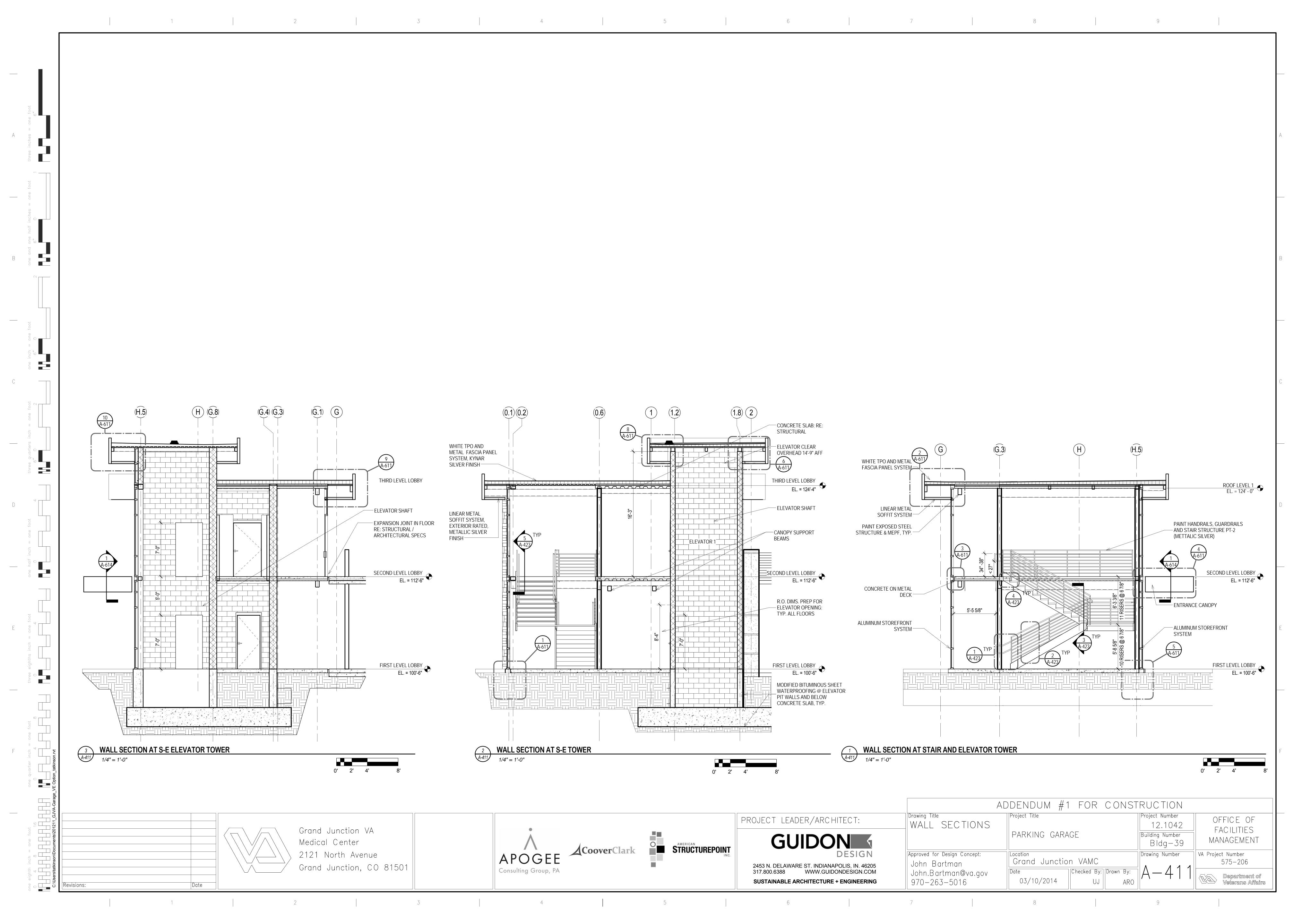


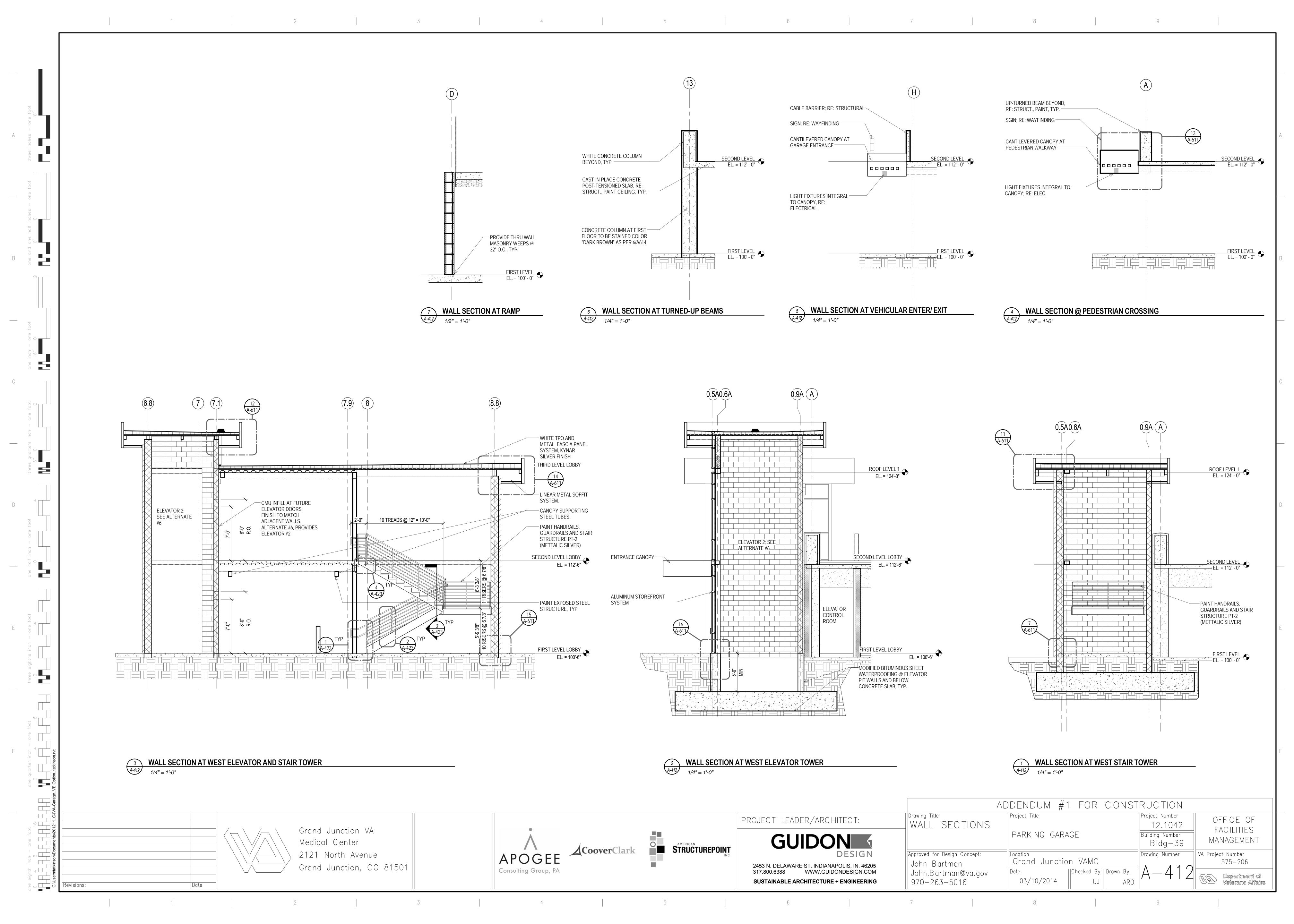


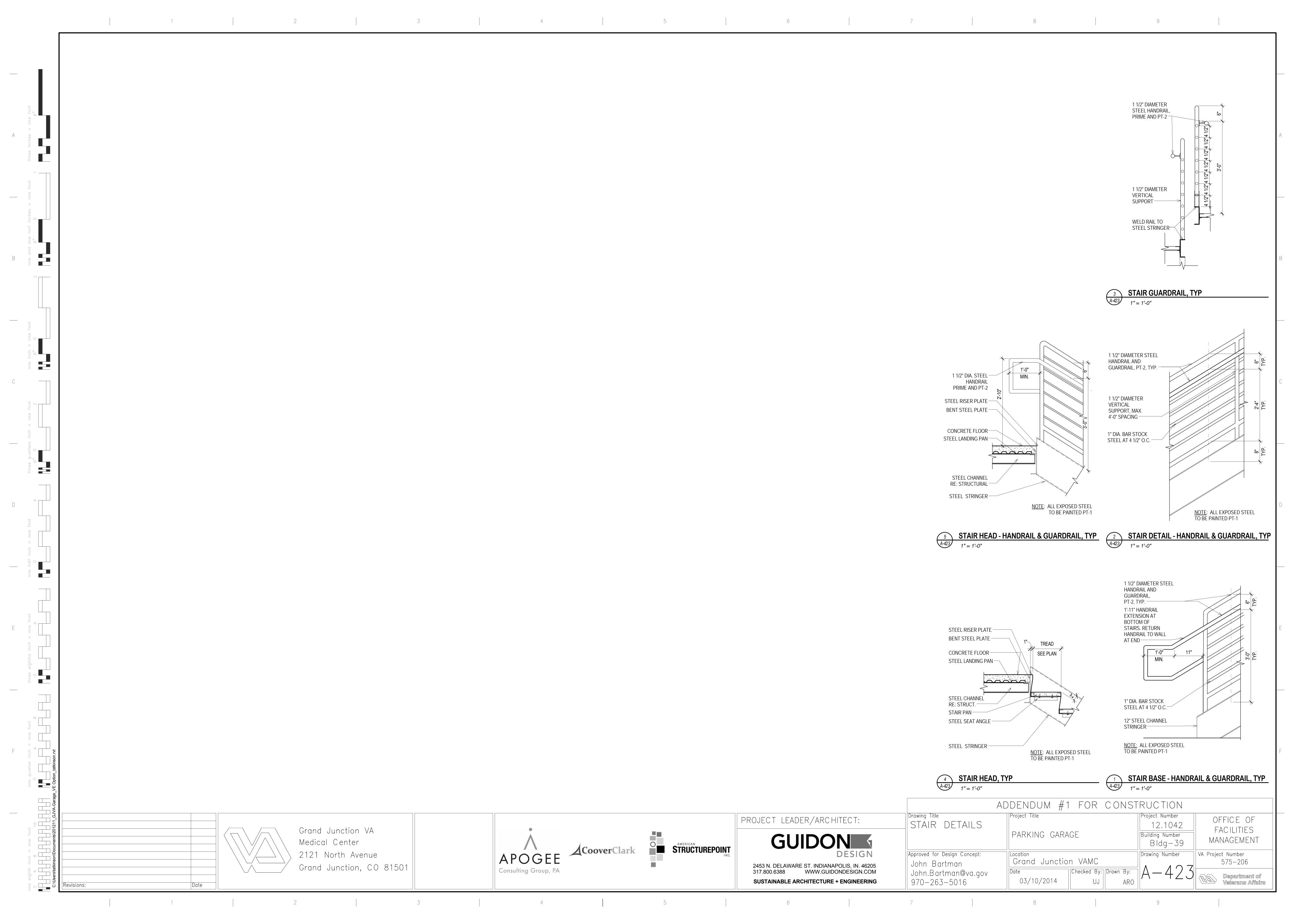


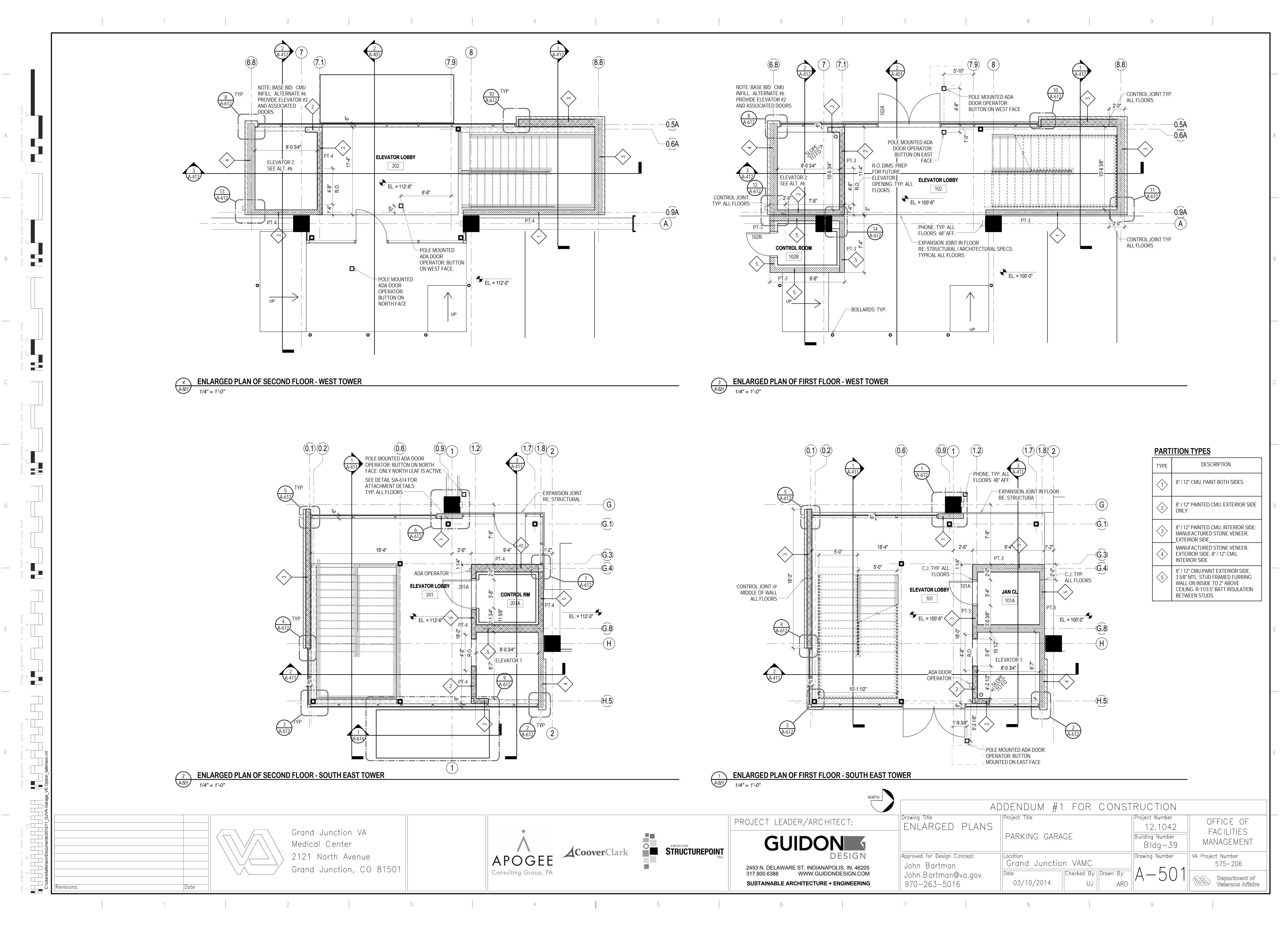


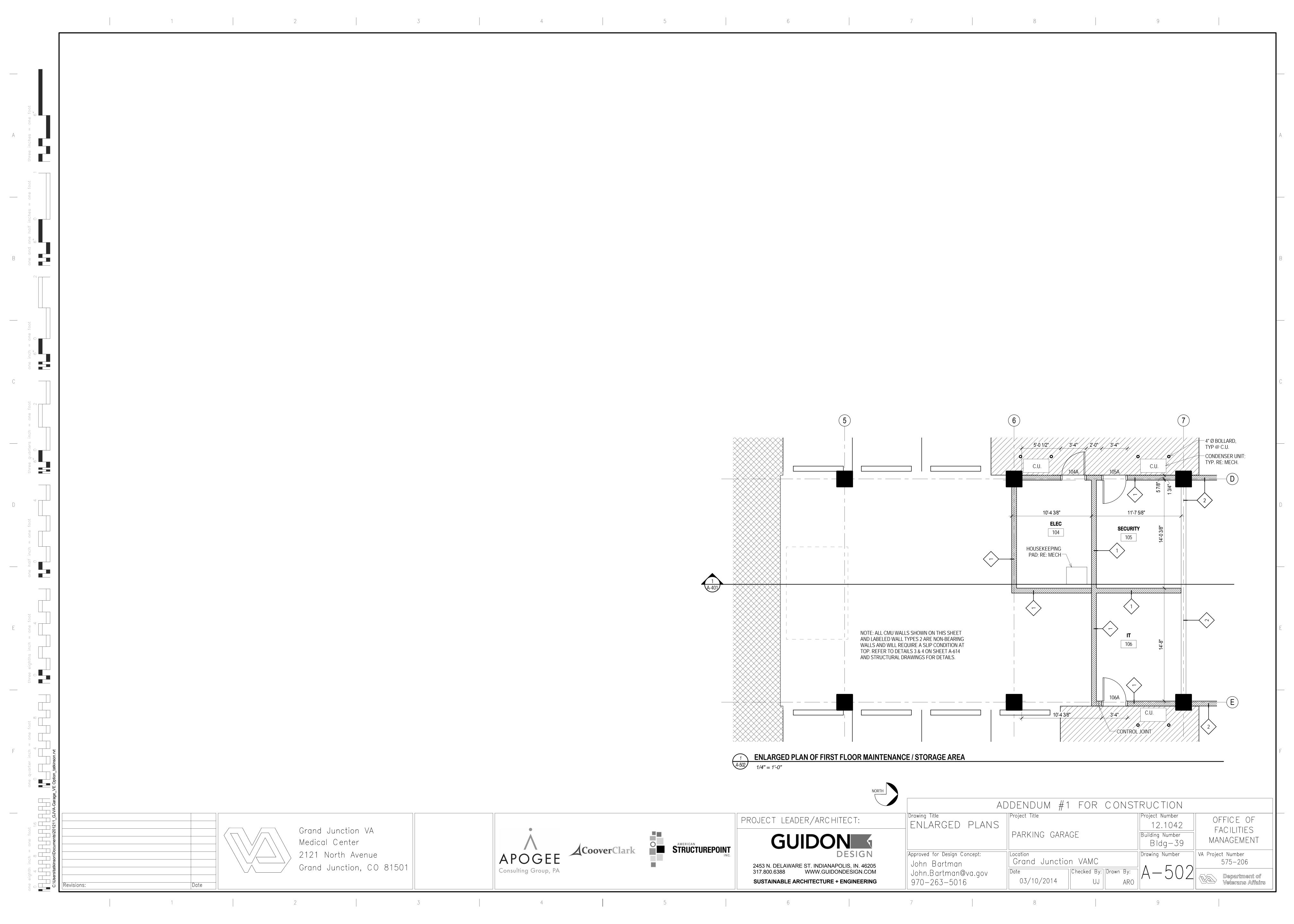


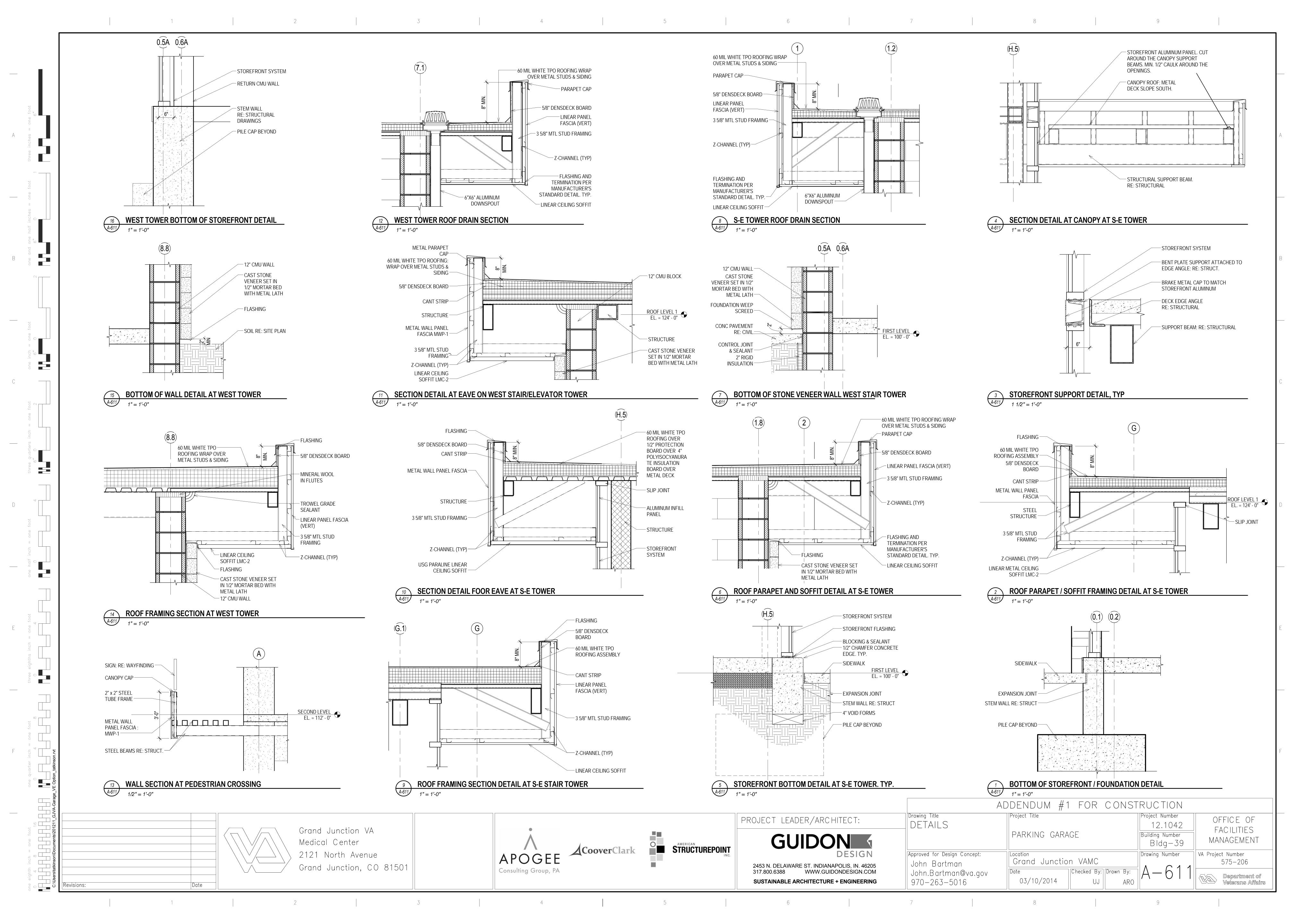


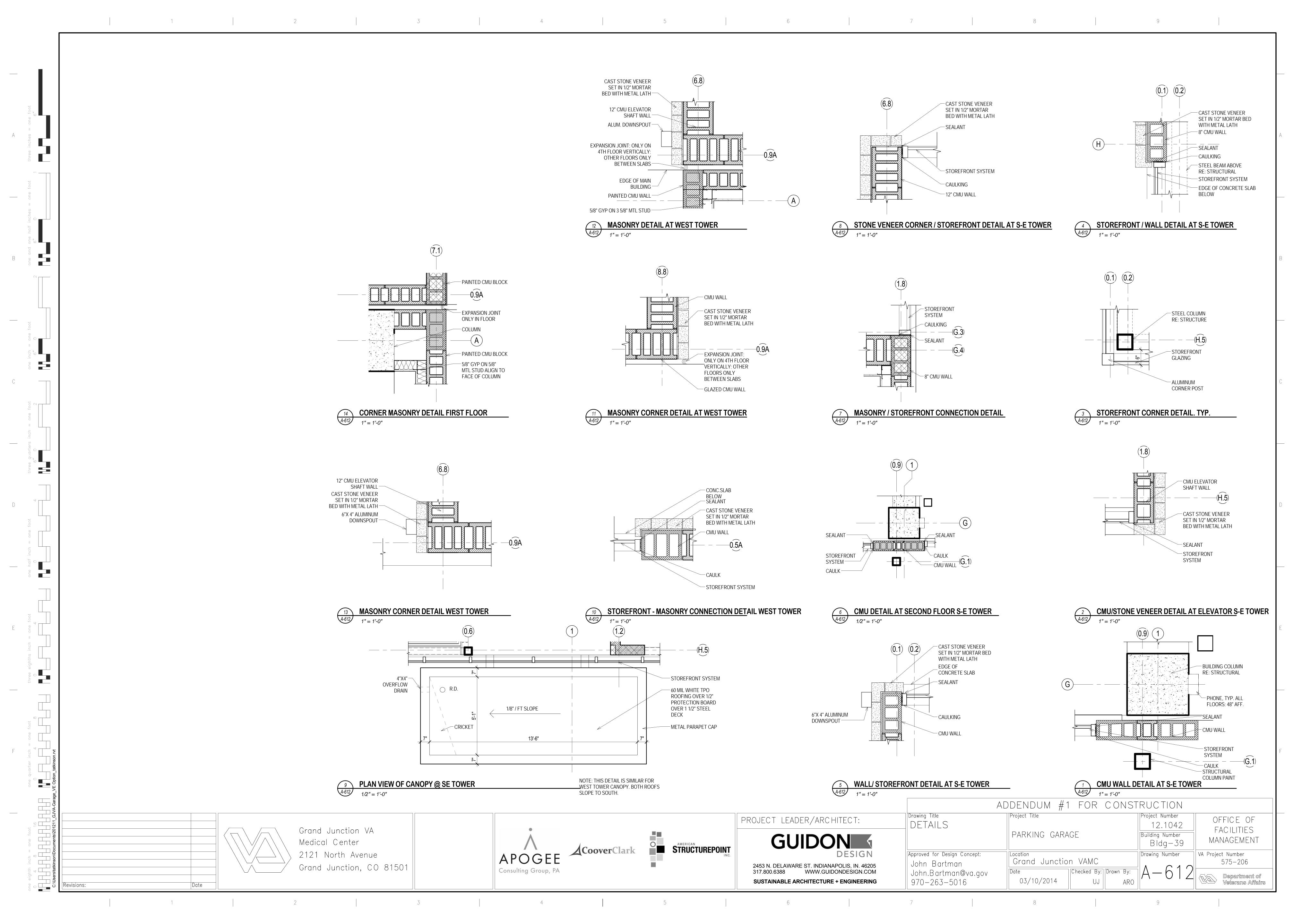


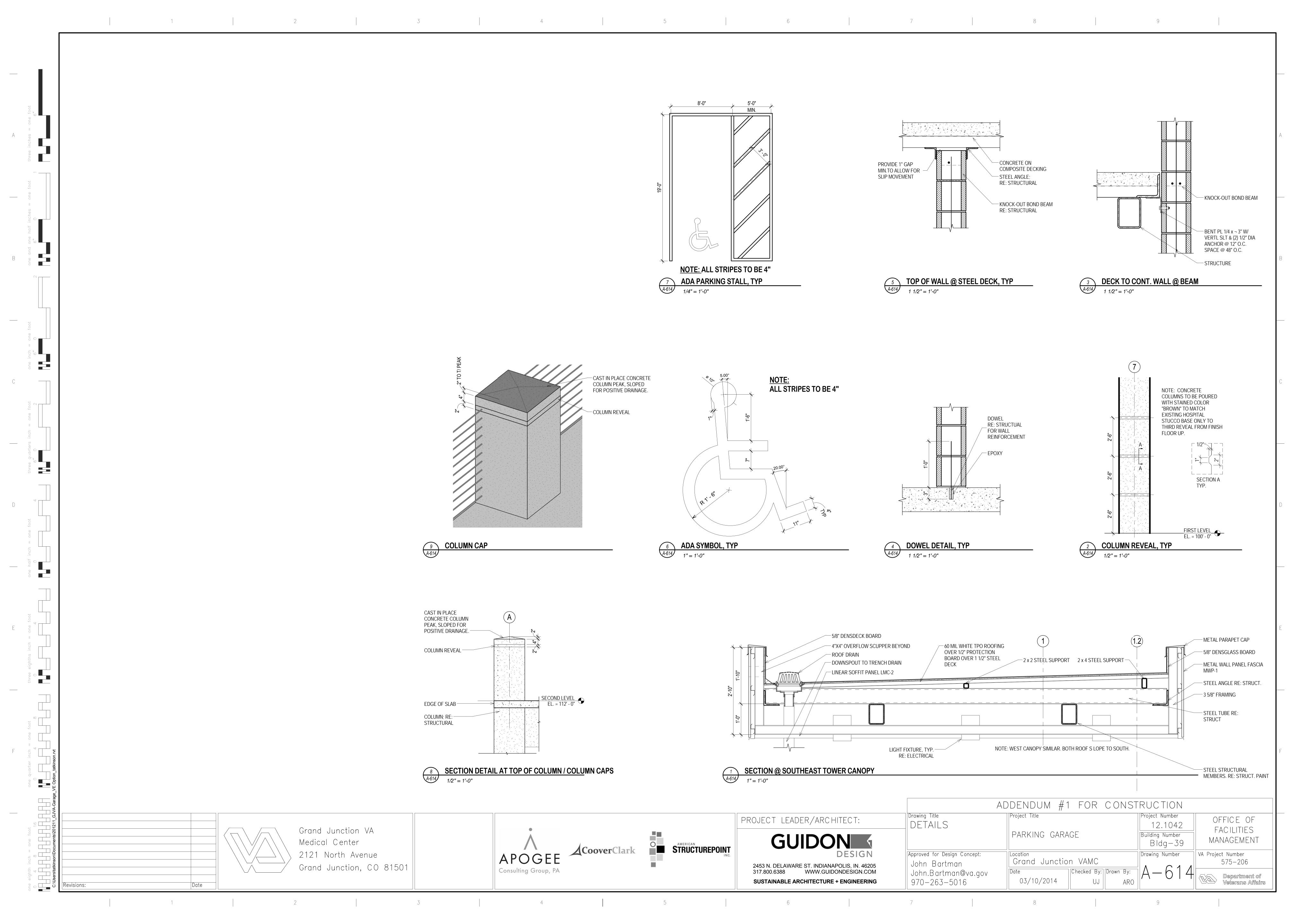


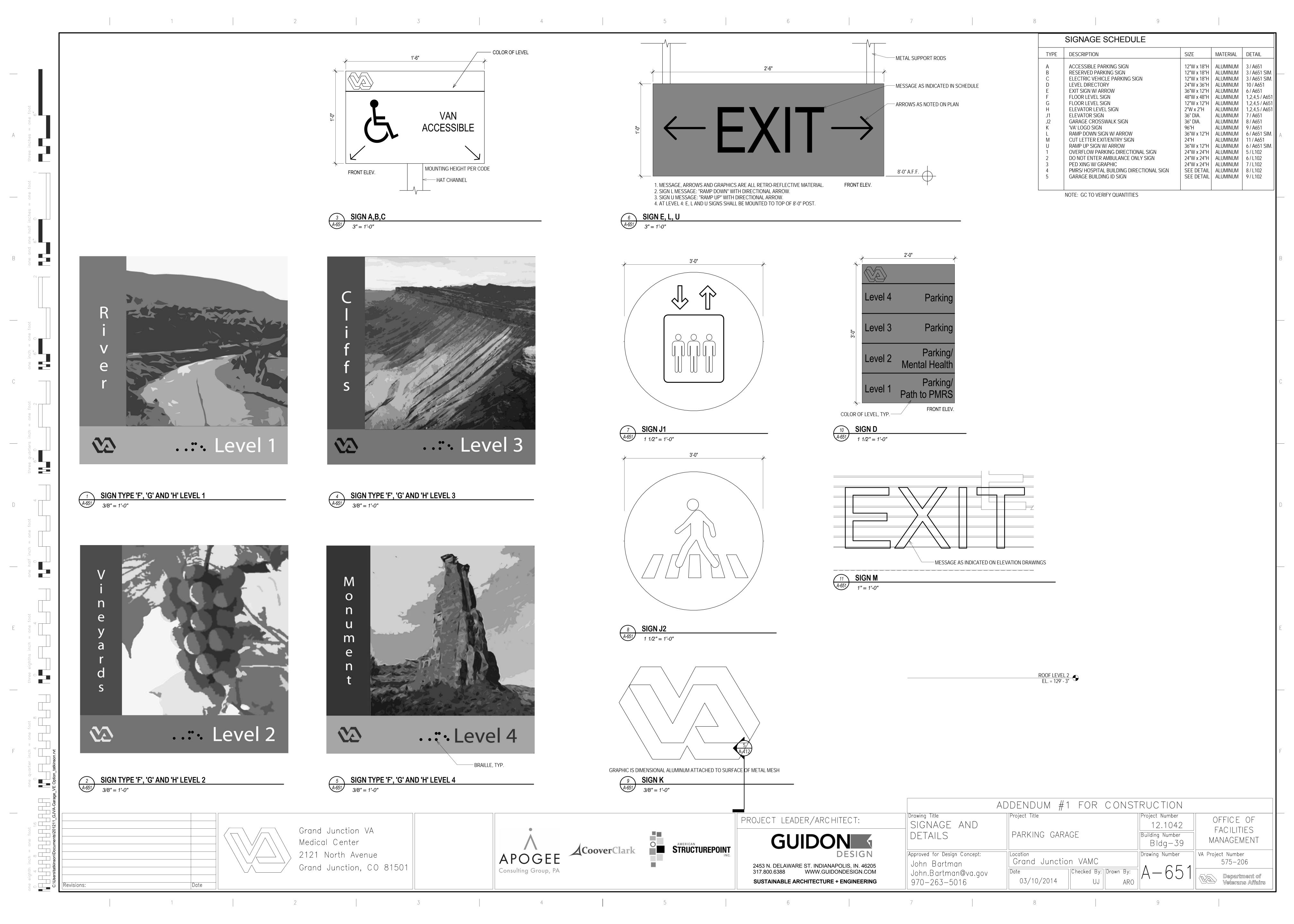












| | PAINT SCHEDULE | | | | | | | | | | | |
|------|----------------|-----------------|-----------------|--|--|--|--|--|--|--|--|--|
| MARK | MANUFACTURER | COLOR | TYPE | COMMENTS | | | | | | | | |
| PT-1 | TBD | WHITE | DRY FALL; LATEX | CEILINGS, MEP CEILING ELEMENTS, INTERIORS OF SERVICE ROOMS | | | | | | | | |
| PT-2 | TBD | METALLIC SILVER | ENAMEL/ALKYD | ALL STAIR STRUCTURE, GUARDRAILS AND HANDRAILS | | | | | | | | |
| PT-3 | TBD | BLUE | LATEX | | | | | | | | | |
| PT-4 | TBD | GREEN | LATEX | | | | | | | | | |
| PT-5 | TBD | RED | LATEX | | | | | | | | | |
| PT-6 | TBD | YELLOW | LATEX | | | | | | | | | |
| PT-7 | TBD | GRAY | ALKYD | ALL HOLLOW METAL DOORS AND FRAMES | | | | | | | | |

| | | | | | | OOR AND FRAM | ME SCHEDUL | .E | | | | |
|--------|------------|----------|-------------------|----------|------------|--------------|------------|-----------|-------------------|--------|-----------------|----------------|
| | | DOORS | | NO | MINAL DIME | NSIONS | D | OOR FRAME | S | FIRE | | |
| NUMBER | TYPE | CONST. | FINISH | HEIGHT | WIDTH | THICKNESS | TYPE | MAT. | FINISH | RATING | HWRE.SET | REMARKS |
| 101A | А | HM | PAINT | 7' - 0" | 3' - 0" | 1 3/4" | А | HM | PAINT | NONE | STORAGE - 001 | |
| 101B | STOREFRONT | ALUMINUM | CLEAR ANODIZED | 7' - 11" | 8' - 0" | | STOREFRONT | ALUMINUM | CLEAR ANODIZED | NONE | PUSH PULL - 004 | ADA OPERATOR |
| 102A | STOREFRONT | ALUMINUM | CLEAR ANODIZED | 7' - 11" | 8' - 0" | | STOREFRONT | ALUMINUM | CLEAR ANODIZED | NONE | PUSH PULL - 004 | ADA OPERATOR |
| 102B | А | HM | PAINT | 7' - 0" | 3' - 0" | 1 3/4" | А | HM | PAINT | NONE | STORAGE -002 | 14"X14" LOUVER |
| 104A | А | HM | PAINT | 7' - 0" | 3' - 0" | 1 3/4" | А | HM | PAINT | NONE | STORAGE -002 | |
| 105A | A | HM | PAINT | 7' - 0" | 3' - 0" | 1 3/4" | Α | HM | PAINT | NONE | STORAGE -002 | |
| 106A | А | HM | PAINT | 7' - 0" | 3' - 0" | 1 3/4" | А | HM | PAINT | NONE | STORAGE - 003 | |
| 201 | STOREFRONT | ALUMINUM | CLEAR ANODIZED | 7' - 11" | 4' - 0" | | STOREFRONT | ALUMINUM | CLEAR ANODIZED | NONE | PUSH-PULL - 006 | ADA OPERATOR |
| 201A | В | HM | PAINT | 7' - 0" | 3' - 8" | 1 3/4" | В | HM | PAINT | NONE | STORAGE - 001 | 14"X14" LOUVER |
| 202A | STOREFRONT | ALUMINUM | CLEAR ANODIZED | 7' - 11" | 4' - 0" | | STOREFRONT | ALUMINUM | CLEAR ANODIZED | NONE | PUSH-PULL - 006 | ADA OPERATOR |

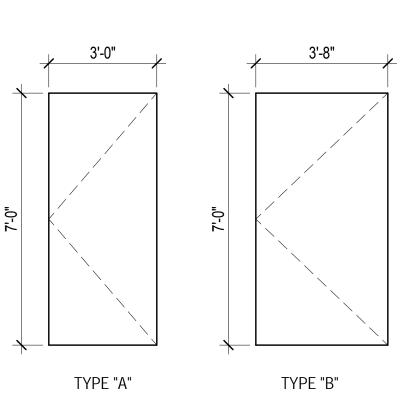
DOOR AND FRAME GENERAL NOTES

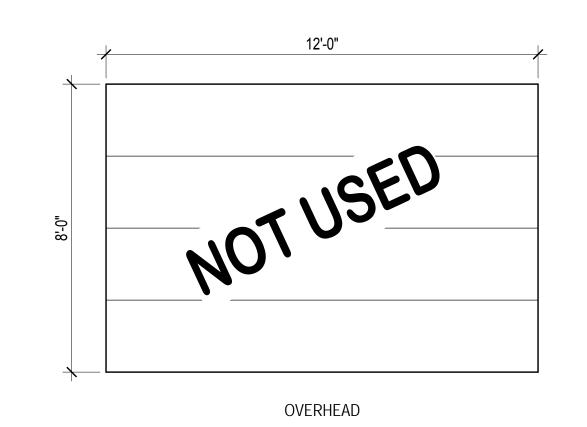
- 1. ALL HOLLOW METAL DOORS AND FRAMES SHALL BE FACTORY PRIMED AND RECEIVE PAINT FINISH ON SITE.
- 2. ALL DOORS ARE 1 3/4" THICK UNLESS OTHERWISE NOTED.
- 3. ALL HOLLOW METAL JAMBS TO BE PREPARED FOR MAGNETIC LOCKS. NO CARD READERS.

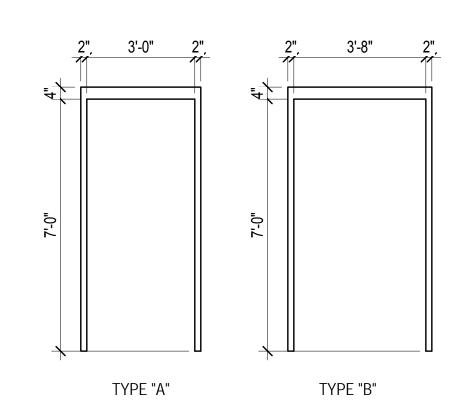
DOOR NOTES

- 1. PAINT ALL HOLLOW METAL DOORS AND FRAMES PT-7
- 2. REFER TO STOREFRONT ELEVATIONS FOR STOREFRONT DOORS

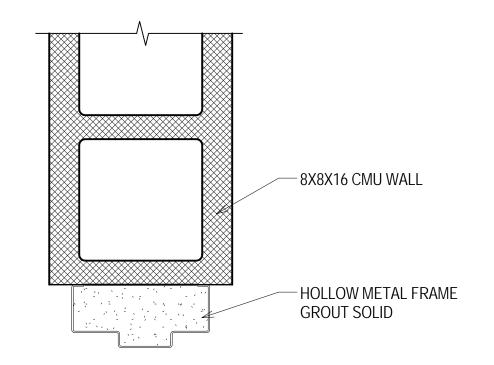
DOOR TYPES

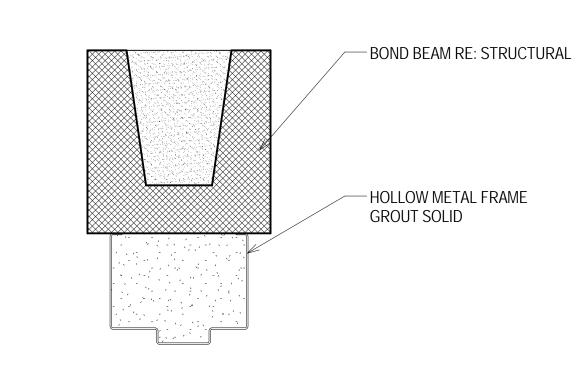






FRAME TYPES





DOOR JAMB DETAIL, TYP

3" = 1'-0"

DOOR HEAD DETAIL, TYP

Date

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501







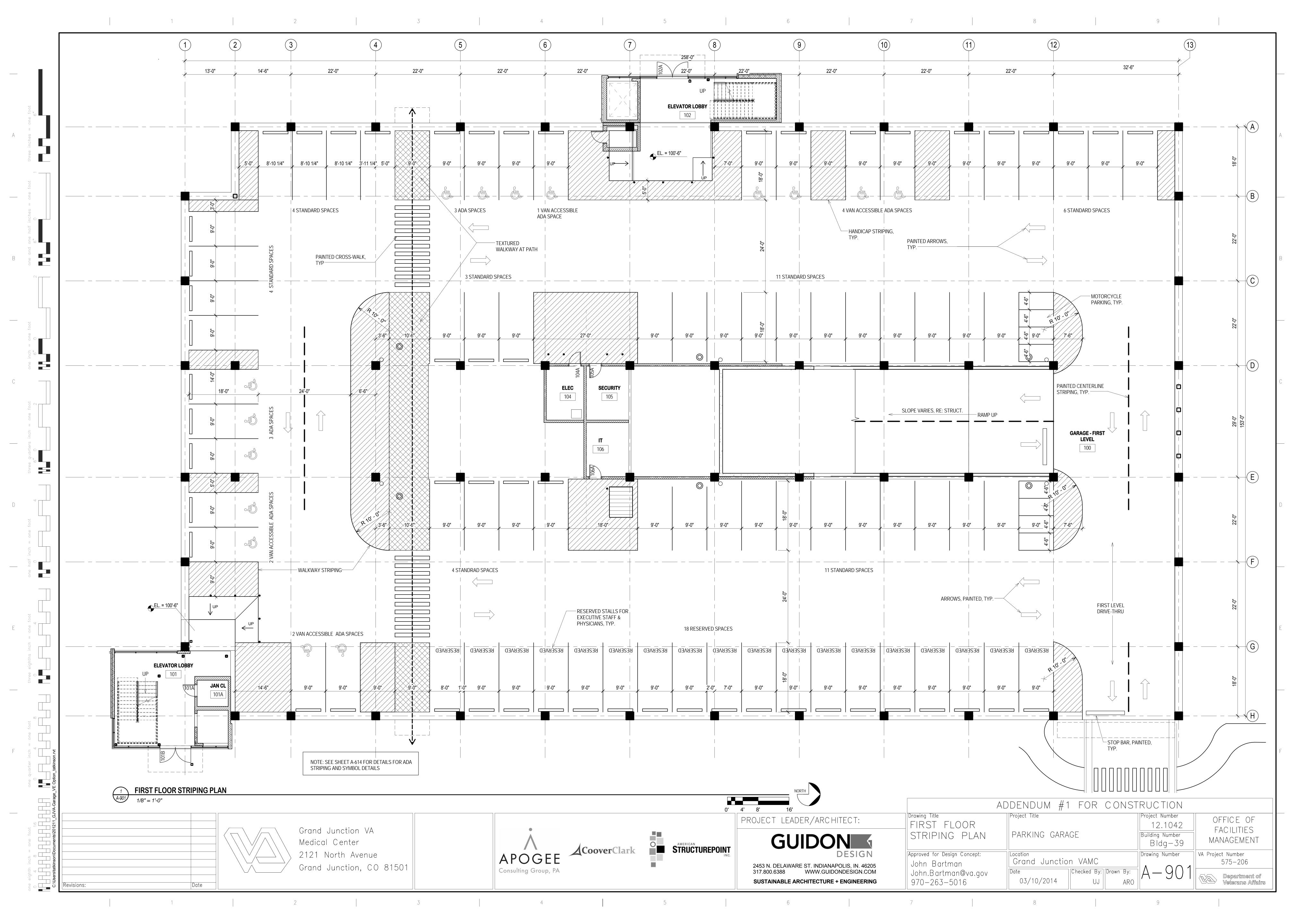


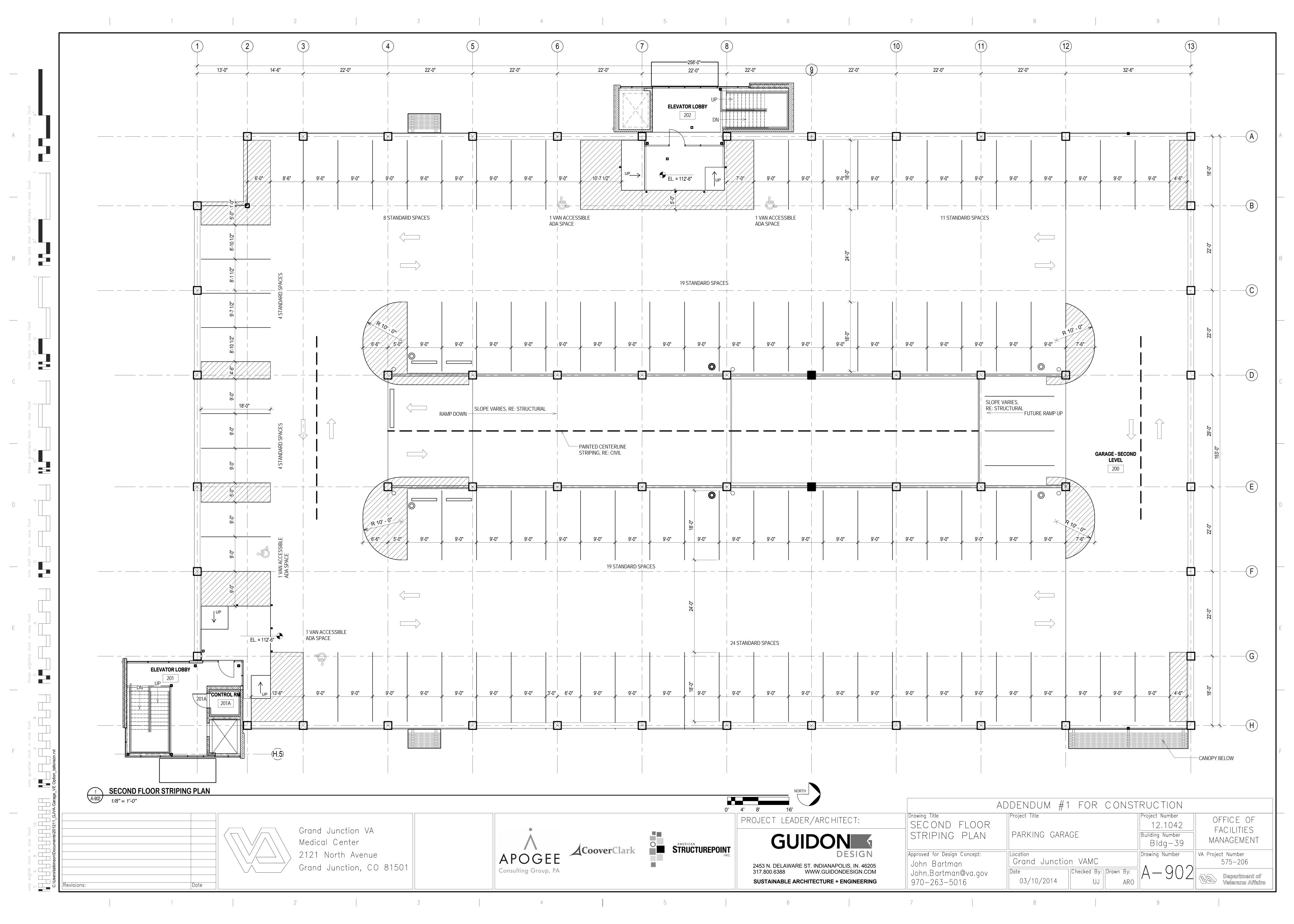
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ADDENDUM #1 FOR CONSTRUCTION Drawing Title
SCHEDULES Project Title PARKING GARAGE Approved for Design Concept: Cocation
Grand Junction VAMC John Bartman Checked By: Drawn By: John.Bartman@va.gov 970-263-5016

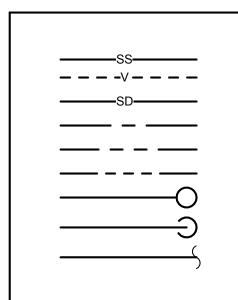
03/10/2014

Project Number OFFICE OF 12.1042 FACILITIES Building Number MANAGEMENT Bldg-39 Drawing Number | VA Project Number 575-206 Department of Veterans Affairs





PLUMBING LEGEND



SANITARY SEWER PIPING (SS) VENT PIPING (V) STORM DRAIN (SD) COLD WATER PIPING (CW) HOT WATER PIPING (HW) HOT WATER CIRCULATION (HWC) PIPE TURNS UP PIPE TURNS DOWN CONTINUATION

PLUMBING ABREVIATIONS

| ADA | AMERICANS WITH DISABILITIES ACT |
|--------|---------------------------------|
| AFF | ABOVE FINISHED FLOOR |
| BFP | BACKFLOW PREVENTER |
| CW | COLD WATER |
| CV | COMMON VENT |
| FCO | FLOOR CLEANOUT (FLOOR OR SLAB) |
| FD | FLOOR DRAIN |
| GCO | GROUND CLEANOUT |
| GW | GREASE WASTE |
| НВ | HOSE BIBB |
| HD | HUB DRAIN |
| IND | INDIRECT DRAIN |
| HW | HOT WATER |
| P-# | PLUMBING FIXTURE - NUMBER |
| P.C. | PLUMBING CONTRACTOR |
| SS | SANITARY SEWER |
| V | VENT |
| V.T.R. | VENT THROUGH ROOF |
| W | WASTE |
| WCO | WALL CLEANOUT |
| SD | STORM WATER |
| HWC | HOW WATER CIRCULATION |
| IW | ICED WATER (SUPPLY) |
| | |

DEDUCT ALTERNATES: ALTERNATE NO. 1: REMOVE METAL CANOPY AND ASSOCIATED STRUCTURE AT BOT PEDESTRIAN WALKWAYS AND THE VEHICLE ENTRY. MOUNT SIGNAGE DIRECTLY TO CONCRETE STRUCTURE. ALTERNATE NO. 2: REDUCE AMOUNT OF LANDSCAPING. PROVIDE T5 FLUORESCENT LIGHT FIXTURE IN LIEU OF LED LIGHTING FIXTURE. DO NOT PROVIDE BROWN CONCRETE STAIN ON COLUMNS AT FIRST ALTERNATE NO. 5: DO NOT PROVIDE CAST STONE AND INSTALL STUCCO IN ALL LOCATIONS WHERE CAST STONE IS SHOWN. ALTERNATE NO. 6: DEDUCT THE CAB, DOORS AND ASSOCIATED EQUIPMENT FOR ELEVATOR #2. PROVIDE CONCRETE BLOCK INFILL IN PLACE OF DOORS, FINISH TO MATCH ADJACENT WALL. DO NOT CONSTRUCT SOUTH ACCESS DRIVE. DO NOT RELOCATE TELECOMMUNICATIONS MANHOLE/ASSOCIATED WIRING. DO NOT CONSTRUCT PLAZA COURTYARD. DO NOT PROVIDE/RELOCATE SITE LIGHTING ALONG SOUTH ACCESS DRIVE. DO NOT PROVIDE ACCESS CONTROL EQUIPMENT. CONSTRUCT SIDEWALK AND PEDESTRIAN CROSSING AS INDICATED IN DRAWINGS FOR THIS ALTERNATE. REDUCE AMOUNT OF SITE SIGNAGE. PROVIDE AN ADDITIONAL 3RD FLOOR PARKING DECK. EXTEND ELEVATOR AND STAIR SHAFTS VERTICALLY BY 12 FEET.

PLUMBING GENERAL NOTES AND SPECIFICATIONS

- THE ENTIRE PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH ALL PROJECT SPECIFICATIONS, LOCAL, STATE, AND NATIONAL CODES ALONG WITH ALL VA STANDARDS, EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.
- ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES PRIOR TO INSTALLATION. CONTRACTOR SHALL COORDINATE ROUTING OF ALL PIPING WITH EXISTING CONDITIONS AND SHALL PROVIDE ANY NECESSARY OFFSETS, REROUTING, ETC. REQUIRED FOR A COMPLETE AND
- THESE PLANS ARE DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE ALL NECESSARY OFFSETS, TEES, ELBOWS, ETC FOR A COMPLETE WORKING PLUMBING SYSTEM.
- THE PLUMBING CONTRACTOR SHALL COMPLY WITH ALL VA PERMIT AND INSPECTION PROCEDURES REQUIRED FOR THIS WORK.
- 5 CONTRACTOR SHALL COORDINATE ANY PLUMBING SYSTEM REQUIRING SHUTDOWN WITH THE OWNER 1 WEEK IN ADVANCE.
- 6 ALL DOMESTIC PIPING SHOWN IS LOCATED ABOVE THE CEILING OR WITHIN WALLS UNLESS NOTED OTHERWISE.
- 7 ALL PLUMBING FIXTURES AND KITCHEN EQUIPMENT SHALL HAVE A PISTON TYPE WATER HAMMER ARRESTOR SIZED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- ALL SANITARY SEWER PIPING SHOWN IS LOCATED BELOW GRADE OR WITHIN WALLS UNLESS NOTED OTHERWISE. ALL SANITARY VENT PIPING SHOWN IS ABOVE CEILING OR WITHIN WALLS UNLESS NOTED OTHERWISE.
- 9 ALL PIPING SYSTEMS SHALL BE SUPPORTED AS REQUIRED BY ALL LOCAL, STATE, AND NATIONAL CODES ALONG WITH ALL VA STANDARDS
- 10 ALL PIPING PENETRATIONS THRU NEW OR EXISTING WALLS OR FLOORS SHALL BE SEALED TO EQUAL THE RATING OF THE NEW OR EXISTING
- 11 ALL PLUMBING SYSTEMS SHALL BE TESTED AS REQUIRED PER ALL LOCAL, STATE, AND NATIONAL CODES ALONG WITH ALL VA STANDARDS.
- 12 THE PLUMBING CONTRACTOR SHALL COORDINATE ALL PLUMBING PIPING WITH ALL STRUCTURAL COMPONENTS.
- 13 THE ENTIRE DOMESTIC WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES ALONG
- 14 MANUFACTURER'S TRADE NAMES AND NUMBERS USED HEREIN ARE ONLY TO IDENTIFY COLORS, FINISHES, TEXTURES, AND PATTERNS AS THE BASIS OF DESIGN. PRODUCTS OF AUTHORIZED EQUAL MANUFACTURER'S EQUIVALENT TO COLORS, FINISHES, TEXTURES AND PATTERNS OF MANUFACTURERS LISTED THAT MEET REQUIREMENTS OF TECHNICAL SPECIFICATIONS IN EVERY RESPECT MAY BE ACCEPTABLE WITH SUBMITTAL OF A COMPLETED SUBSTITUTION REQUEST CONTAINING ALL PRODUCT DATA, TESTING AND ACTUAL SAMPLES AND UPON APPROVAL IN WRITTING BY CONTRACTING OFFICER.

ADDENDUM #1 FOR CONSTRUCTION

Date

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501



∠CooverClark





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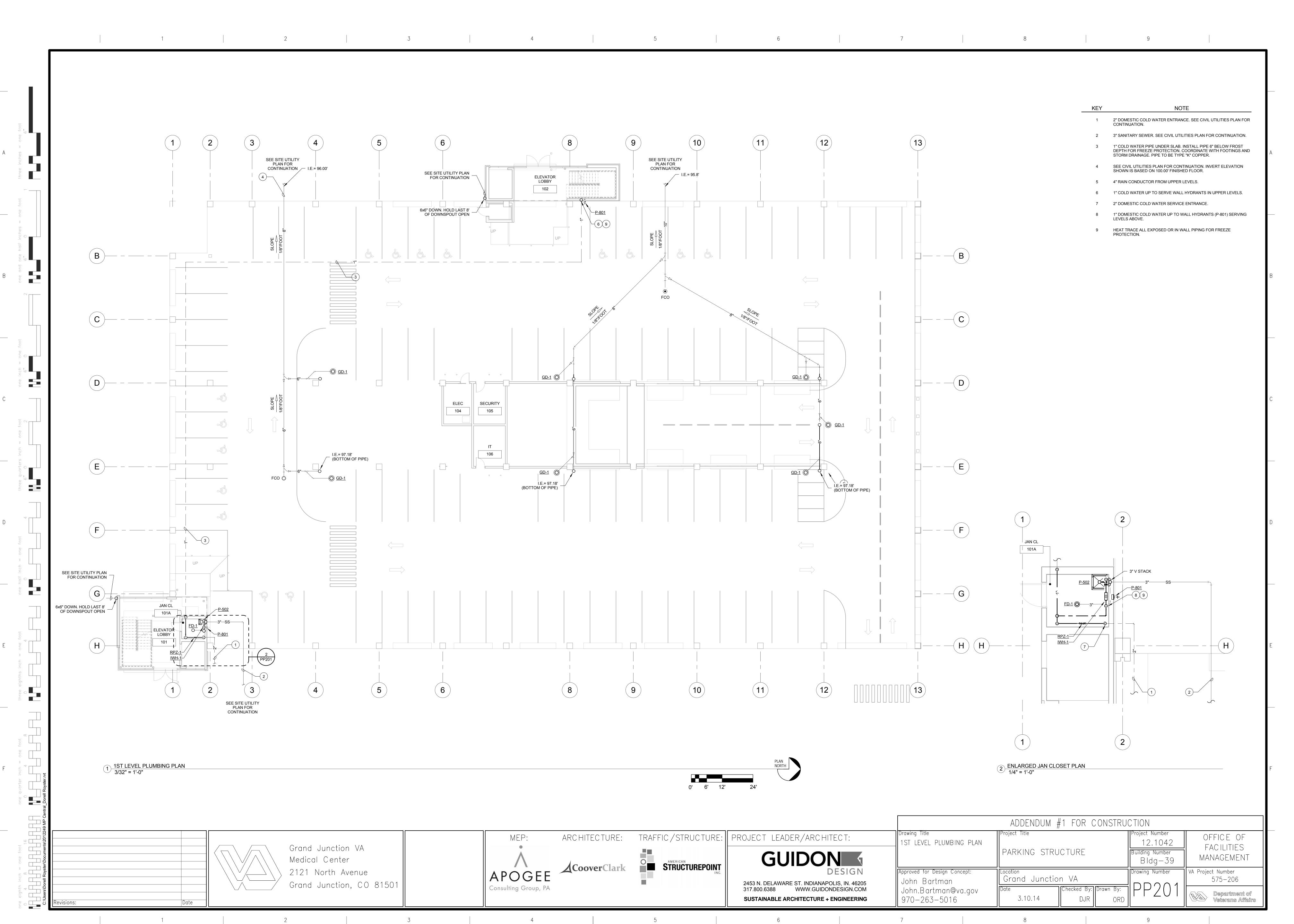
PLUMBING NOTES AND LEGEND Approved for Design Concept: John Bartman

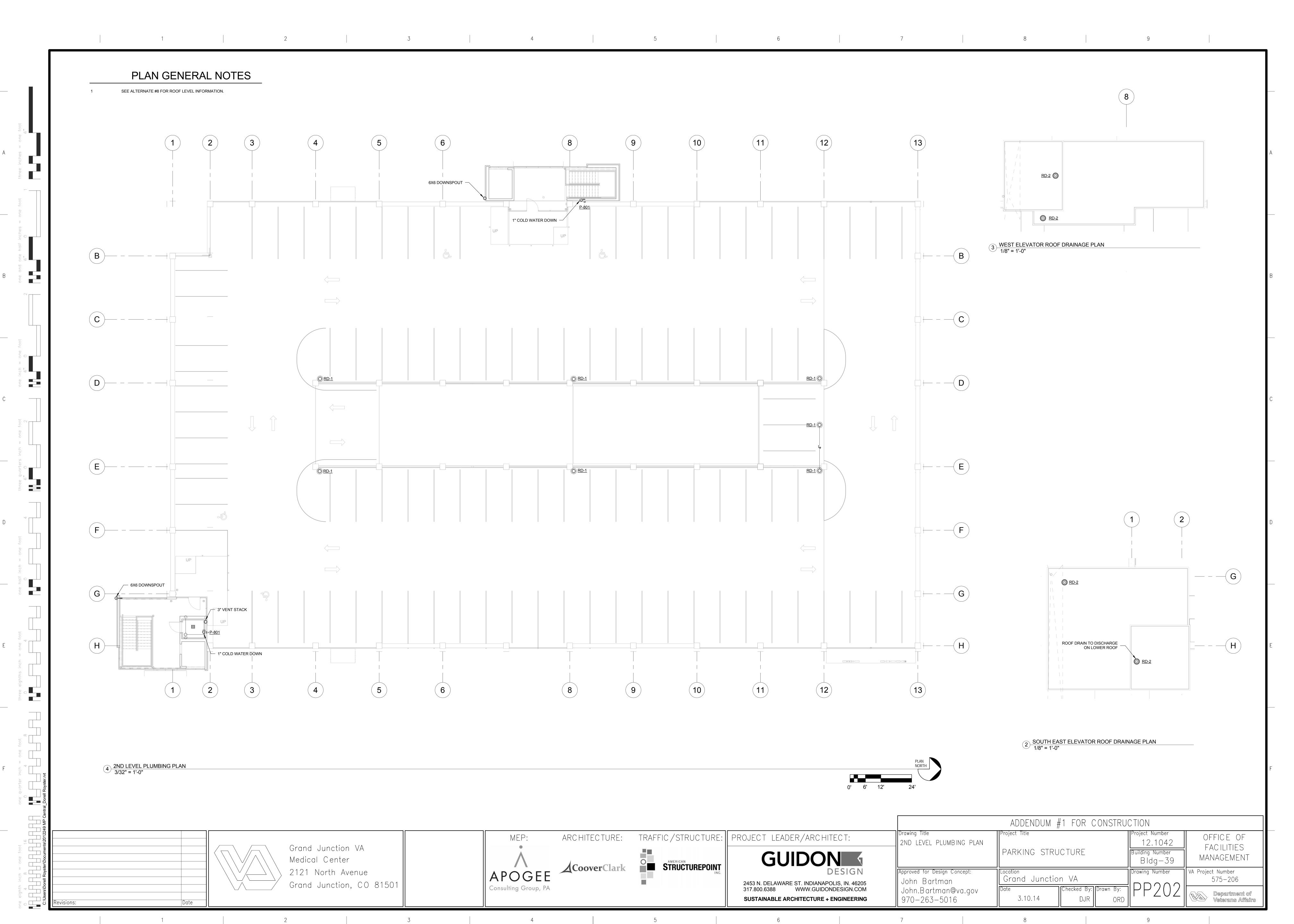
Drawing Title

John.Bartman@va.gov 970-263-5016

PARKING STRUCTURE Grand Junction VA 3.10.14

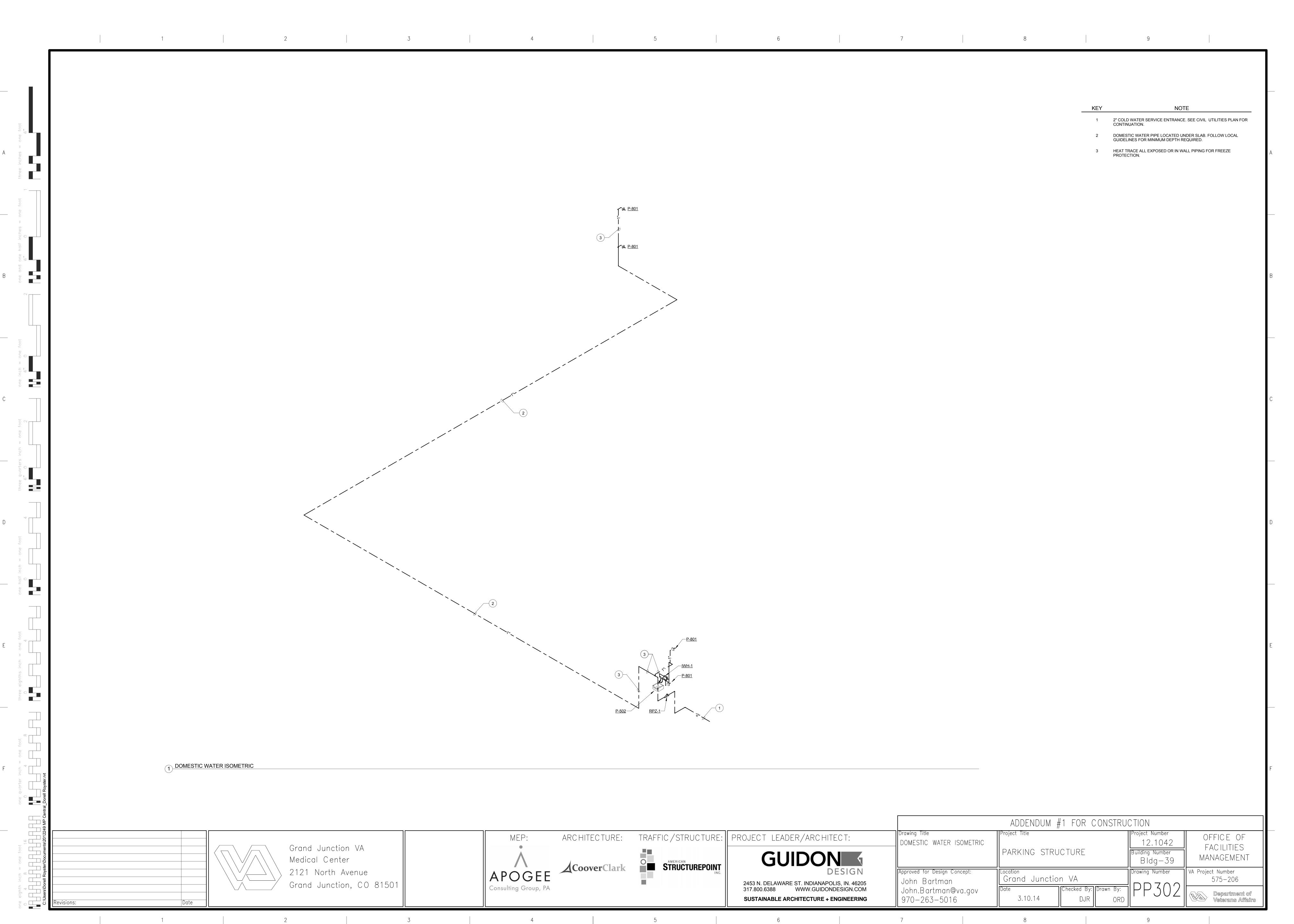
OFFICE OF 12.1042 FACILITIES Building Number MANAGEMENT Bldg-39 Drawing Number ☐ VA Project Number 575-206 1P-001 Department of Veterans Affairs





ROOF AND FLOORS DRAINAGE SCHEDULE HORIZONTAL AREA VERTICAL SURFACE PROJECTED CUMULATIVE AREA REQUIRED DRAIN AND REQUIRED CONDUCTOR PROVIDED DRAIN AND PROJECTED AREA COVERED BY PROVIDED LEVEL SURFACE (FT²) AREA (FT²) AREA (FT²) DRAINED (FT²) LEADER SIZE (IN.) SIZE (IN.) LEADER SIZE (IN.) | CONDUCTOR SIZE (IN.) | PROVIDED DRAIN LEADERS (FT²) DRAINS AND LEADERS SIZING PER THE INTERNATIONAL PLUMBING CODE SECTIONS 1105 AND 1106. 2"/HR WAS USED FOR THE 100-YEAR, 1 HOUR RAINFALL RATE IN ALL CALCULATIONS. TO STORM DETENTION POND. SEE SITE UTILITY PLAN — I.E. = 95.80' <u>GD-1</u> TO STORM DETENTION POND. SEE SITE UTILITY PLAN TO STORM DETENTION POND. SEE SITE UTILITY PLAN I.E. = 97.18' ROOF DRAIN TO DISCHARGE ON LOWER ROOF TO SANITARY SEWER. TO STORM DETENTION POND. SEE SITE UTILITY PLAN STORM AND WASTE ISOMETRIC ADDENDUM #1 FOR CONSTRUCTION Drawing Title
STORM & WASTE ISOMETRIC TRAFFIC/STRUCTURE: PROJECT LEADER/ARCHITECT: OFFICE OF ARCHITECTURE: MEP: 12.1042 FACILITIES Grand Junction VA Building Number
Bldg-39 STRUCTUREPOINT PARKING STRUCTURE GUIDON MANAGEMENT Medical Center **CooverClark** Approved for Design Concept: DESIGN Drawing Number APOGEE
Consulting Group, PA Location Grand Junction VA VA Project Number 575-206 2121 North Avenue John Bartman Grand Junction, CO 81501 2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 317.800.6388 WWW.GUIDONDESIGN.COM John.Bartman@va.gov 970-263-5016 Department of Veterans Affairs 3.10.14 SUSTAINABLE ARCHITECTURE + ENGINEERING

Date



| | PLUMBING FIXTURE SCHEDULE | | | | | | | | | | | |
|-------|---|---------------|--------------|---------------|--------------|------------------------|---|------------------------|----|---|--|--|
| TAG | DESCRIPTON | WASTE PIPE | VENT PIPE | COLD WATER | HOT WATER | WASTE FIXTURE UNITS | | WRIST BLADE HANDLES | | REMARKS | | |
| | | | | | | | | | | | | |
| FCO | Floor Cleanout with Round Ductile IronTop | | | | | | | | | | | |
| FD-1 | FLOOR DRAIN | 3" | | | | | | | | SERVED BY 3" SS COMBINATION WASTE AND VENT | | |
| GD-1 | PARKING DECK DRAIN FOR SLABS | 4" | | | | | | | | SERVES LEVEL 1. SEE SPECIFICATION SECTION 221300. TYPE "Y". | | |
| P-502 | SINK, SERVICE, FLOOR MOUNTED | 3" | 1 1/2" | 3/4" | 3/4" | 2 | 4 | No | No | STAIN RESISTANT TERRAZO | | |
| P-801 | FREEZELESS WALL HYDRANT CONCEALED BOX | | | 1" | | | | | | WITH DOUBLE CHECK BACKFLOW PREVENTER, 1" INLET AND OUTLET | | |
| RD-1 | PARKING DECK DRAIN FOR SLABS | 4" | | | | | | | | SERVES LEVEL 2. SEE SPECIFICATION SECTION 221400. | | |
| RD-2 | ROOF DRAIN | 6" | | | | | | | | ELEVATOR TOWER ROOF DRAINAGE. SEE SPECIFICATION SECTION 221400. | | |
| RPZ-1 | REDUCED PRESSURE PRINCIPLE ASSEMBLY | | | 2" | | | | | | PROVIDE AIR GAP FITTING AND INDIRECT WASTE TO NEAR FLOOR DRAIN | | |

| | ELECTRIC WATER HEATER SCHEDULE | | | | | | | | | | |
|-------|---|----------------------------|------------|-------------------|-------------|-------|-------|------|------|-------|----------------|
| | WATER GROUND WATER HOT OUTLET WATER FLOW ELECTRICAL | | | | | | | | | | |
| TAG | LOCATION | TYPE | CONNECTION | INLET TEMPERATURE | TEMPERATURE | RATE | KW | AMPS | VOLT | PHASE | REMARKS |
| | | | | | | | | | | | |
| IWH-1 | JAN. CLOSET | INSTANTANEOUS WATER HEATER | 1/2" | 40 °F | 105 °F | 2 GPM | 18 kW | 75 | 240 | 1 | |

Date

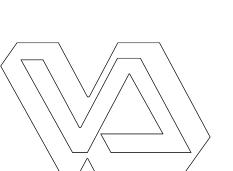
ADDENDUM #1 FOR CONSTRUCTION Drawing Title
PLUMBING SCHEDULE OFFICE OF FACILITIES TRAFFIC/STRUCTURE: PROJECT LEADER/ARCHITECT: MEP: ARCHITECTURE: 12.1042 Grand Junction VA Building Number
Bldg-39 STRUCTUREPOINT INC. PARKING STRUCTURE GUIDON MANAGEMENT Medical Center **CooverClark** Approved for Design Concept: Drawing Number Location Grand Junction VA VA Project Number 575-206 2121 North Avenue APOGEE
Consulting Group, PA John Bartman 2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 317.800.6388 WWW.GUIDONDESIGN.COM Grand Junction, CO 81501 John.Bartman@va.gov 970-263-5016 Department of Veterans Affairs 3.10.14 SUSTAINABLE ARCHITECTURE + ENGINEERING

MECHANICAL GENERAL NOTES AND SPECIFICATIONS

- ALL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES ALONG WITH ALL VA STANDARDS. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS.
- THE MECHANICAL CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES, AND INSPECTIONS REQUIRED FOR HIS WORK.
- ALL MATERIALS, EQUIPMENT AND PRODUCTS INCORPORATED IN THE WORK UNDER THE CONTRACT SHALL BE NEW, OF A SUITABLE GRADE FOR THE PURPOSES INTENDED, AND TO THE EXTENT POSSIBLE, STANDARD PRODUCTS OF THE VARIOUS MANUFACTURERS EXCEPT WHERE SPECIAL CONSTRUCTION OR PERFORMANCE FEATURES ARE CALLED FOR.
- ANY EQUIPMENT OR MATERIAL DEVIATIONS FROM THAT SPECIFIED OR DETAILED ON THIS DRAWING SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER. ALL PROPOSED EQUIPMENT DEVIATIONS SUBMITTED SHALL BE SIMILAR BOTH IN QUALITY AND CAPACITY TO THAT EQUIPMENT SPECIFIED.
- ALL MECHANICAL EQUIPMENT SHALL BE LISTED AND LABELED BY UNDERWRITERS LABORATORIES (U.L.).
- THE MECHANICAL CONTRACTOR SHALL INSTALL EQUIPMENT AS SHOWN ON THE DRAWINGS ALLOWING FOR SUFFICIENT ACCESS AND CLEARANCE SPACE FOR EQUIPMENT MAINTENANCE, REPAIRS AND REPLACEMENT. PROVIDE PROPER CLEARANCES FOR REQUIRED PIPING AND ELECTRICAL SERVICES AND CONNECTIONS. INSTALL ALL EQUIPMENT WITH REQUIRED ACCESS AND CLEARANCES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS AND/OR WITH ALL APPLICABLE CODES AND STANDARDS.
- THE MECHANICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION AND ROUTING OF ALL PROPOSED DUCTWORK, PIPING AND EQUIPMENT WITHIN THE BUILDING STRUCTURE.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL HIS OWN SUPPORT EQUIPMENT. LOCATIONS SHALL BE COORDINATED WITH ALL CONTRACTORS PRIOR TO INSTALLATION.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO THE EQUIPMENT PROVIDED UNDER THIS CONTRACT.
- 10 THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING FOR HIS EQUIPMENT.
- DUCTWORK AND PIPING LAYOUTS AND LOCATIONS ARE SCHEMATIC. DO NOT SCALE THESE DRAWINGS. EXACT ROUTING OF DUCTWORK AND PIPING MUST BE DETERMINED IN THE FIELD. ALL DIMENSIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR BY ACTUAL MEASUREMENT AND OBSERVATION BEFORE ORDERING OR FABRICATING ANY DUCTWORK, PIPING OR EQUIPMENT. ANY DISCREPANCIES BETWEEN THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND THE EXISTING CONDITIONS OR DIMENSIONS SHALL BE REPORTED TO THE A/E AND VMAC COTR BEFORE THE PERFORMANCE OF ANY WORK. FAILURE TO VERIFY AND REPORT SHALL CONSTITUTE THE CONTRACTOR'S ACCEPTANCE OF THE EXISTING CONDITIONS AS FIT FOR THE PROPER EXECUTION OF HIS WORK. SEE ARCHITECTURAL DRAWINGS FOR FINAL LOCATION OF CEILING INSTALLED.
- DUCTWORK AND PIPING SHALL BE KEPT AS CLOSE AND HIGH AS POSSIBLE TO THE BUILDING WALLS, CEILING AND FLOOR AND ROOF STRUCTURE IN ORDER THAT THE MAXIMUM AMOUNT OF SPACE IS AVAILABLE. ADDITIONAL OFFSETS, FITTINGS, ETC. NOT SHOWN BUT REQUIRED TO MAINTAIN MAXIMUM CLEARANCE SHALL BE PROVIDED AT NO ADDITIONAL COST,
- 13 THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PATCHING, PAINTING AND CLEANING ASSOCIATED WITH THIS PROJECT UNLESS NOTED OTHERWISE
- 14 PROVIDE A COMPLETE 1-YEAR WARRANTY ON ALL LABOR AND MATERIALS.
- 15 CONTRACTOR SHALL FURNISH A BOUND SET OF OPERATING AND MAINTENANCE INSTRUCTIONS FOR ALL EQUIPMENT TO THE OWNER UPON COMPLETION OF PROJECT.
- 16 INSTALL ESCUTCHEONS IN ALL PLACES WHERE PIPING PENETRATES A WALL IN AN EXPOSED LOCATION.
- 17 THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, INCLUDING THE SCHEDULES AND DETAILS PRIOR TO INSTALLATION OF ANY MECHANICAL SYSTEMS AND SHALL RESOLVE ANY CONFLICTS WITH THE ENGINEER.
- CONTRACTOR SHALL TAKE POSSESSION OF AND DISPOSE OF ALL EXISTING MATERIALS AND EQUIPMENT BEING DEMOLISHED AND/OR REMOVED. ALL ITEMS SHALL BE DISPOSED OF IN FULL COMPLIANCE WITH ALL APPLICABLE LAWS, RULES, AND REGULATIONS THAT APPLY. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE DISPOSAL.
- INSTALL SHUTOFF-DUTY VALVES AT EACH BRANCH CONNECTION TO SUPPLY MAINS, AND AT SUPPLY CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL CHECK VALVES AT EACH
- PUMP DISCHARGE AND ELSEWHERE AS REQUIRED TO CONTROL FLOW DIRECTION. 20 DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN
- EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL PIPING TO ALLOW APPLICATION OF INSULATION
- REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND
- THREADED JOINTS: THREAD PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS: APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY SEAL THREADING IS SPECIFIED. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT
- 23 INSTALL MANUAL AIR VENTS AT HIGH POINTS IN PIPING, AT HEAT-TRANSFER COILS, AND ELSEWHERE AS REQUIRED FOR SYSTEM AIR VENTING.
- 24 CUT INSULATION IN A MANNER TO AVOID COMPRESSING INSULATION MORE THAN 75 PERCENT OF ITS NOMINAL THICKNESS. FINISH INSTALLATION WITH SYSTEMS AT OPERATING CONDITIONS. REPAIR JOINT SEPARATIONS AND CRACKING DUE TO THERMAL MOVEMENT. REPAIR DAMAGED INSULATION FACINGS BY APPLYING SAME FACING MATERIAL OVER DAMAGED AREAS. EXTEND PATCHES AT LEAST 4 INCHES BEYOND DAMAGED AREAS. ADHERE, STAPLE, AND SEAL PATCHES SIMILAR TO BUTT JOINTS.
- INSULATE INSTRUMENT CONNECTIONS FOR THERMOMETERS, PRESSURE GAGES, PRESSURE TEMPERATURE TAPS, TEST CONNECTIONS, FLOW METERS, SENSORS, SWITCHES, AND TRANSMITTERS ON INSULATED PIPES, VESSELS, AND EQUIPMENT. SHAPE INSULATION AT THESE CONNECTIONS BY TAPERING IT TO AND AROUND THE CONNECTION WITH INSULATING CEMENT AND FINISH WITH FINISHING CEMENT, MASTIC, AND FLASHING SEALANT.
- THE MECHANICAL CONTRACTOR SHALL TAKE THE LEAD IN PREPARATION OF COORDINATION DRAWINGS. SUCH DRAWINGS SHALL BE COMPLETED WITH COORDINATION FROM THE GENERAL CONTRACTOR AND ALL OTHER MAJOR AND MINOR SUBCONTRACTORS. PROVIDE PLAN VIEWS, SECTIONS AND ELEVATIONS, AS REQUIRED, TO FULLY COORDINATE ALL NEW WORK WITH ITSELF AND EXISTING CONDITIONS. DRAWINGS SHALL SHOW, BUT NOT BE LIMITED TO, ALL DUCTWORK, AIR DISTRIBUTION, MECHANICAL EQUIPMENT, MECHANICAL PIPING. FIRE PROTECTION PIPING, PLUMBING PIPING, CABLE TRAYS, LIGHTING FIXTURES, CEILING GRID AND HEIGHT, BEAMS AND JOISTS (WITH ELEVATIONS MARKED), ELECTRICAL CONDUIT LARGER THAN 2 INCHES IN DIAMETER AND ANY OTHER CEILING MOUNT DEVICES OR EQUIPMENT THAT PROTRUDE INTO THE CEILING CAVITY. IF THERE ARE ANY OUTSTANDING ISSUES THAT CANNOT BE RESOLVED, CONSULT WITH ARCHITECT AND/OR ENGINEER (THROUGH THE VA COTR) FOR GUIDANCE AND MAKE CORRECTIONS IN ACCORDANCE WITH DIRECTIONS GIVEN. IT IS IMPORTANT TO NOTE THAT FABRICATION CANNOT BEGIN UNTIL COORDINATION DRAWINGS HAVE BEEN APPROVED. ANY INSTALLATION COMMENCED PRIOR TO APPROVAL IS TAKEN AT THE CONTRACTORS OWN RISK AND MAY HAVE TO BE MODIFIED, MOVED AND/OR RECONFIGURED AT CONTRACTORS COST.
- MANUFACTURER'S TRADE NAMES AND NUMBERS USED HEREIN ARE ONLY TO IDENTIFY COLORS, FINISHES, TEXTURES, AND PATTERNS AS THE BASIS OF DESIGN. PRODUCTS OF AUTHORIZED EQUAL MANUFACTURER'S EQUIVALENT TO COLORS, FINISHES, TEXTURES AND PATTERNS OF MANUFACTURERS LISTED THAT MEET REQUIREMENTS OF TECHNICAL SPECIFICATIONS IN EVERY RESPECT MAY BE ACCEPTABLE WITH SUBMITTAL OF A COMPLETED SUBSTITUTION REQUEST CONTAINING ALL PRODUCT DATA, TESTING AND ACTUAL SAMPLES AND UPON APPROVAL IN WRITTING BY CONTRACTING OFFICER.

| ARCHITECT / ENGINEER ANX AIR TO AIR HEAT EXCHANGER AIR AIR TO AIR HEAT EXCHANGER AIR AIR TO AIR HEAT EXCHANGER AIR COOLED CONDENSER AIR COOLED CONDENSER COCH AIR COOLED CONDENSING UNIT COL AIR CONTROL DAMPER, MODULATING COLT AUTOMATIC CONTROL DAMPER, MODULATING COLT AUTOMATIC CONTROL DAMPER, MODULATING COLT AUTOMATIC CONTROL DAMPER, MODULATING CONTROL DAMPER, MODULATING CONTROL DAMPER, MODULATING CONTROL DAMPER, MODULATING CONTROL DAMPER, TURN CONTROL DAMPER, TURN CONTROL DAMPER, TURN CONTROL DAMPER, TURN COLT AIR FLOW CONTROL DAMPER, TURN CONTROL DAMPER, MODULATING CONTROL DAMPER, TURN CONTROL DAMPER, TURN CONTROL DAMPER, CONTROL DAM | | | | A | BBREVIATIONS | | | | |
|--|-------------------|-------------|--|--------------|--|--------------|---|--------------|--|
| AHX AIR TO AIR HEAT EXCHANGER BA AIR BLENDER AV AUTOMATIC AIR VENT CC AIR COOLED CONDENSER CCH AIR COOLED CONDENSING UNIT CD AIR COOLED CONDENSING UNIT CD AIR COOLED CONTROL DAMPER MODULATING CD-TP AUTOMATIC CONTROL DAMPER MODULATING CD-TP AUTOMATIC CONTROL DAMPER,TW. POSITION C ACCESS DOOR C AFTER FILTER CCV AIR FLOW CONTROL VALVE FF ABOVE FINISHED FLOOR FMD AIR FLOW MEASURING DEVICE FW AIR FOIL WHEEL (FAN) HU AIR-HANDLING UNIT MP AMPERGE CD AIR PRESSURE DROP RI AIR CONDITIONING AND REFRIGERATION INSTITUTE C AIR SEPARATOR C AIR WASHER C AIR WASHER C BUTTERFLY DAMPER C BUTTERF | GINEER | D | DAMPER - AUTOMATIC | HD | HOOD | MH | MANHOLE | SD | SUPPLY AIR DIFFUSER |
| AUTOMATIC AIR VENT CC AIR COOLED CONDENSER AIR COOLED CONDENSER CCU AIR COOLED CONDENSING UNIT CU AIR COOLED CONDENSING UNIT CU AIR COONTIONING UNIT CU AIR CONTROL DAMPER, MODULATING CD-AUTOMATIC CONTROL DAMPER, MODULATING CD-TP AUTOMATIC CONTROL DAMPER, TW POSITION CO-COOLED CONTROL VALVE FE ABOVE FINISHED FLOOR FE AFTER FILTER CCV AIR FLOW CONTROL VALVE FE ABOVE FINISHED FLOOR FE AIR FOIL WHEEL (FAN) AIR PRESSURE DROP AIR ONDITIONING AND REFRIGERATION INSTITUTE CO-COOLING COIL CONTROL VALVE CO-COOLING COIL CONTROL COIL CO-COOLING COIL COIL CO-COOLING COIL CO-COOLING COIL COOLING COIL COIL CO-COOLING CO | | D-1 | OUTDOOR AIR DAMPER | HOA | HAND/OFF/AUTOMATIC | MHP | MOTOR HORSEPOWER | SDPR | SMOKE DAMPER |
| CC AIR COOLED CONDENSER CCH AIR COOLED CHILLER CCU AIR-COOLED CHILLER CCU AIR-COOLED CONDENSING UNIT CD AUTOMATIC CONTROL DAMPER, MODULATING CD-TP AUTOMATIC CONTROL DAMPER, MODULATING CD-TP AUTOMATIC CONTROL DAMPER, MODULATING CD-TP AUTOMATIC CONTROL DAMPER, TW. POSITION CD-TP AUTOMATIC CONTROL DAMPER, TW. POSITION CD-TP AUTOMATIC CONTROL DAMPER, TW. POSITION CD-TP AUTOMATIC CONTROL CONT | | D-2 | RETURN AIR DAMPER | HP | HEAT PUMP | MIN | MINIMUM | SDR | SMOKE DAMPER (RETURN) |
| CCH AIR COOLED CHILLER CCU AIR-COOLED CONDENSING UNIT CCU AIR-CONDITIONING UNIT CCU AIR CONDITIONING UNIT CCU AIR CONDITIONING UNIT CCU AIR CONDITIONING UNIT CCU AIR CONDITIONING UNIT CCU AIR FLOW MERS MODITION ON ACCESS DOOR CCU AIR FLOW CONTROL DAMPER, TW. CCU AIR FLOW CONTROL DAMPER, TW. CCU AIR FLOW CONTROL VALVE CCU AIR FLOW CONTROL VALVE CCU AIR FLOW CONTROL VALVE CCU AIR FLOW MEASURING DEVICE CCU AIR FLOW CONTROL VALVE CCU AIR PRESSURE DROP CRI AIR CONDITIONING AND CRETCIGAN SOCIETY OF MECHANICA CENGINEERS CCU AIR SEPARATOR CCU AIR SEPARATOR CCU AIR SEPARATOR CCU AIR WASHER CCU AIR COULD WASHER CCU AIR WASHER COULDING COIL OOLING COIL CONDENS ATE TORAGE TANK CCU AIR WASHER COULD WASHER COULD WAT | | D-3 | RELIEF AIR DAMPER | HP | HORSEPOWER | MM | MILLIMETER | SDS | SMOKE DAMPER (SUPPLY) |
| AIR COOLED CONDENSING UNIT AIR CONDITIONING UNIT AIR CONDITIONING UNIT AUTOMATIC CONTROL DAMPER, MODULATING DAMPER, MODULATING DAMPER, TW. POSITION ACCESS DOOR AFTER FILTER CV AIR FLOW CONTROL VALVE F ABOVE FINISHED FLOOR AIR FLOW MEASURING DEVICE WAIR FOIL WHEEL (FAN) UNIT AIR FRESSURE DROP AIR PRESSURE DROP AIR PRESSURE DROP AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR AIR WASHER AMERICAN SOCIETY OF MECHANICAE ENGINEERS WAIR WASHER AMERICAN SOCIETY OF MECHANICAE ENGINEERS WAIR WASHER BASE BOARD RADIATOR PACKFLOW PREVENTER DEVICE BOTTOM GRILLE BOLER BLOWDOWN HEAT EXCHANGER WHOT WATER HEATING BOILER BLOWDOWN HEAT EXCHANGER WHOT WATER HEATING BOILER CONDING REGISTER BOTTOM REGISTER WASHER BOTTOM REGISTER BOTTOM REGISTER COBIOLOGICAL SAFETY CABINETS BLOWOFF TANK CONTROL VALVE UNIT BOILER PLANT HIRE MULL UNIT PER HOUR WITH BRITISH THERMAL UNIT PER HOUR OLD COOLING COIL CONDENSATE DRAIN CEILING OFFICER PER MINUTE CENTIGRADE (CELCIUS) COOLING COIL CONDENSATE DRAIN CEILING OFFICER PER HOUR CHILLED WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL CONDENSATE DRAIN CHILLED WATER PUMP CHILLED WATER PUMP CHILLED WATER SUPPLY CAST IRON ACARBON MONOXIDE CUBIC METER WY CHILLED WATER PUMP CHILLED WATER PUMP CHILLED WATER SUPPLY CAST IRON ACARBON MONOXIDE CUBIC METER WY CHILLED WATER PUMP CHILLED WATER SUPPLY CAST IRON ACARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CHILLED WATER SUPPLY CAST IRON ACARBON MONOXIDE CUBIC METER WY CHILLED WATER PUMP CHILLED WATER SUPPLY CAST IRON ACARBON MONOXIDE CUBIC METER CONDENSATE PUMP CHILLED WATER SUPPLY CAST IRON ACARBON MONOXIDE CUBIC METER PER SECOND CONDENSATE PUMP CHILLED WATER SUPPLY CAST IRON ACARBON MONOXIDE CUBIC METER CONDENSATE PUMP CONDENSATE PUMP C | | DB Db | DECIBELS DRY-BULB TEMPERATURE | HPDT HPR | HIGH PRESSURE DRIP TRAP HIGH PRESSURE RETURN (STEAM | MOV MPR | MOTOR OPERATED VALVE MEDIUM PRESSURE RETURN (STEAM | SEN SF | SENSIBLE HEAT SUPPLY FAN |
| AUTOMATIC CONTROL DAMPER, MODULATING DAMPERGE CV AIR FLOW CONTROL VALVE F ABOVE FINISHED FLOOR MD AIR FLOW MEASURING DEVICE WAIR FOLL WHEEL (FAN) IU AIR-HANDLING UNIT MP AMPERGE DAMPERGE DAMPERGE DAMPERGE DAMPERGE DAMPERGE DAMPERGE DAMPERSSURE DROP AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS WAIR WASHER DAMPERGE DAMPERG | | DDC | DIRECT DIGITAL CONTROLS | прк | CONDENSATE) | IVIPR | CONDENSATE) | SG SG | SUPPLY FAIN SUPPLY AIR GRILLE |
| AUTOMATIC CONTROL DAMPER, MODULATING AUTOMATIC CONTROL DAMPER, TW POSITION ACCESS DOOR AFTER FILTER CV AIR FLOW CONTROL VALVE F ABOVE FINISHED FLOOR MD AIR FLOW MEASURING DEVICE W AIR FOIL WHEEL (FAN) III AIR-HANDLING UNIT AP AMPERGE ACCESS PANEL D AIR PERSSURE DROP AIR AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR IME AMERICAN SOCIETY OF MECHANICA ENGINEERS V AIR WASHER F AXIAL FLOW BOILER BUTTERFLY DAMPER BASE BOARD RADIATOR P BACKDAFT DAMPER BRASE HORSEPOWER IN HOT WATER HEATING BOILER IN BOILER BLOWDOWN HEAT EXCHANGER W BOILER BLOWDOWN HEAT EXCHANGER IN BOYTOM REGISTER OB BLOWOFF TANK C BLOWOFF TANK C BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE U BRITISH THERMAL UNIT UH BRITISH THERMAL UNIT PER HOUR VIT BOILER PLANT THERMAL UNIT UH BRITISH THERMAL UNIT PER HOUR VIT BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) C COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CHEMICAL FEED PUMP CEILING DIFFUSER CHEMICAL FEED PUMP CEILING DIFFUSER CHEMICAL FEED PUMP CEILING REGISTER COUGH CONDENSATE DRAIN CEILING DIFFUSER CHEMICAL FEED PUMP CEILING DIFFUSER CHEMICAL FEED PUMP CEILING REGISTER CHEMICAL FEED PUMP CEILING REGISTER CONDENSATE PUMP CHILLED WATER RETURN CHARLED WATER PUMP COMPRESSOR UNIT COMPRESSOR UNIT COMPRESSOR UNIT CONDENSATE STORAGE TANK CHILLED WATER PER SECOND CLEAN OUT CONDENSATE STORAGE TANK CONDENSER WATER PUMP | | DEG | DEGREE | HPS | HIGH PRESSURE SUPPLY (STEAM) | MPS | MEDIUM PRESSURE STEAM | SH | STEAM HUMIDIFIER |
| AUTOMÁTIC CONTROL DAMPER,TW POSITION ACCESS DOOR AFTER FILTER CV AIR FLOW CONTROL VALVE F ABOVE FINISHED FLOOR MD AIR FLOW MEASURING DEVICE W AIR FOIL WHEEL (FAN) III AIR-HANDLING UNIT IIP AMPERGE ACCESS PANEL D AIR PRESSURE DROP III AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS W AIR WASHER F AXIAL FLOW BOILER BUTTERFLY DAMPER D BACKORAFT DAMPER IIP BRAKE HORSEPOWER IIV HOT WATER HEATING BOILER IIP BRAKE HORSEPOWER IIP BRAKE HORSE | | DF | DIFFUSER | HRC | HEAT RECOVERY COIL | MRI | MAGNETIC RESONANCE IMAGING | SHC | STEAM HEATING COIL |
| POSITION ACCESS DOOR AFTER FILTER CV AIR FLOW CONTROL VALVE F ABOVE FINISHED FLOOR MD AIR FLOW MEASURING DEVICE W AIR FOIL WHEEL (FAN) IU AIR-HANDLING UNIT IIP AMPERGE ACCESS PANEL D AIR PRESSURE DROP AIR AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR AME AMERICAN SOCIETY OF MECHANICA ENGINEERS W AIR WASHER F AXIAL FLOW BOILER BUTTERFLY DAMPER D BACKDRAFT DAMPER D C BACKDRAFT D C BACK | | DIA | DIAMETER | HRD | HEAT RECOVERY DEVICE | MTD | MEAN TEMPERATURE DIFFERENCE | SI | SQUARE INCHES |
| ACCESS DOOR AFTER FILTER CV AIR FLOW CONTROL VALVE F ABOVE FINISHED FLOOR MD AIR FOOL WHEEL (FAN) IU AIR-HANDLING UNIT IP AMPERGE ACCESS PANEL D AIR PERSSURE DROP RI AIR SEPARATOR IME AMERICAN SOCIETY OF MECHANICA ENGINEERS W AIR WASHER F AXIAL FLOW BOILER BUTTERFLY DAMPER BO BACKDRAFT DAMPER BO BACKDRAFT DAMPER BO BACKDRAFT DAMPER BO BACKLOW PREVENTER T BOILER PLANT FIRE TUBE BOTTOM GRILLE IP BRAKE HORSEPOWER IW HOT WATER HEATING BOILER IX BOILER BLOWDOWN HEAT EXCHANGER W BOTTOM REGISTER CO BIOLOGICAL SAFETY CABINETS BLOWOFF TANK CONTROL VALVE U BRITISH THERMAL UNIT UH BRITISH THERMAL UNIT CENTRIFICAL H CUBIC FEET PER HOUR COOLING COIL COOLING COIL COOLING COIL COOLING COIL CONTROL COIL COULING COIL COOLING COIL COOLING COIL CONTROL COIL CONTROL COIL COULING COIL COULING COIL COOLING COIL CONTROL COIL COULING COIL COOLING COIL COOLIN | NTROL DAMPER,TWO | DIW | DEIONIZED WATER | HRP | HYDRONIC RADIANT (CEILING) PANEL | MVD | MANUAL VOLUME DAMPER | SP | STATIC PRESSURE |
| AFTER FILTER CV AIR FLOW CONTROL VALVE F ABOVE FINISHED FLOOR MD AIR FLOW MEASURING DEVICE W AIR FOIL WHEEL (FAN) U AIR-HANDLING UNIT IP AMPERGE ACCESS PANEL D AIR PRESSURE DROP I AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS // AIR WASHER F AXIAL FLOW BOILER BUTTERFLY DAMPER D BACKPLOW PREVENTER T BOILER PLANT FIRE TUBE BOTTOM GRILLE P BRAKE HORSEPOWER W HOT WATER HEATING BOILER X BOILER BLOWDOWN HEAT EXCHANGER V BACKWARD INCLINED WHEEL (FAN) IT BONE MARROW TRANSPLANT BOTTOM REGISTER C BIOLOGICAL SAFETY CABINETS BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE U BRITISH THERMAL UNIT PER HOUR // BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING FEET PER HOUR M CUBIC FEET PER HOUR CEILING DIFFUSER NT CENTRIFICAL H CUBIC FEET PER HOUR CEILING GRILLE CHILLER P CHILLER P CHILLER P CHILLER CHILLER CHILLER CHILLER CHILLER WATER R CHILLED WATER RETURN CHILLER WATER R CHILLED WATER RETURN CHILLER WATER CONDENSATE SUPPLY CAST IRON I CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK C CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK C CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK C CLEAN OUT COOLING REGISTER CONDENSATE STORAGE TANK C CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK C CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK C CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK C CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK C CLEAN OUT CARBON BOOXODE CONDENSATE STORAGE TANK C CLEAN OUT CARBON BOOXODE CONDENSATE STORAGE TANK C CLEAN OUT CARBON MONOXIDE CUBIC METER PER SECOND COLING TOWER CONDENSATE STORAGE TANK C CLEAN OUT CARBON BOOXODE CONDENSATE STORAGE TANK C CLEAN OUT CARBON BOOXODE CONDENSATE PUMP CONDENSATE PUMP COLING TOWER CONDENSATE STORAGE TANK C CLEAN OUT CABON WATER COOLING COIL CCC CHILLED WATER COOLING COIL CCC CHILLED WATER COOLING COIL | | DP DP | DEW POINT TEMPERATURE DIFFUSER PLATE | HRW HSTAT | HEAT RECOVERY WHEEL HUMIDISTAT | MZ | MULTI-ZONE | SP GR SPD | SPECIFIC GRAVITY |
| AIR FLOW CONTROL VALVE ABOVE FINISHED FLOOR AIR FLOW MEASURING DEVICE AIR FOIL WHEEL (FAN) AIR FOIL WHEEL (FAN) AIR FOIL WHEEL (FAN) AIR PRESENTE DROP AMPERGE ACCESS PANEL AIR PRESSURE DROP AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR AIR SEPARATOR AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER BACKDRAFT DAMPER BACKDRAFT DAMPER BACKDW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BOTTOM GRILLE BENTOM REGISTER BOILER BLOWDOWN HEAT EXCHANGER BENDEM MARROW TRANSPLANT BOTTOM REGISTER BIOWOFF TANK BUTTOM REGISTER BIOWOFF TANK COUGHOR COIL CONDENSATE DRAIN COLING COIL COULING GRILLE CHILLED WATER PUMP CEILING GRILLE CHILLED WATER PUMP CEILING GRILLE CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COULING TOWER CONDENSE WATER PUMP | | DPA | DIFFERENTIAL PRESSURE ASSEMBLY | HTM | HUMIDIFIER TERMINAL | NA | NOT APPLICABLE | SPRV | SUPPLY PROCESS AND DISTRIBUTION STEAM PRESSURE REDUCING VALVE |
| ABOVE FINISHED FLOOR AIR FLOW MEASURING DEVICE AIR FOIL WHEEL (FAN) AIR FOIL WHEEL (FAN) AIR FOIL WHEEL (FAN) AIR FOIL WHEEL (FAN) AIR-HANDLING UNIT P AMPERGE ACCESS PANEL D AIR PRESSURE DROP AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS AIR WASHER F AXIAL FLOW BOILER BUTTERFLY DAMPER D BACKDRAFT DAMPER D BACKDRAFT DAMPER D BACKFLOW PREVENTER D BACKFLOW PREVENTER T BOILER PLANT FIRE TUBE BOTTOM GRILLE P BRAKE HORSEPOWER W HOT WATER HEATING BOILER X BOILER BLOWDOWN HEAT EXCHANGER W HOT WATER BLOWDOWN HEAT EXCHANGER W BACKWARD INCLINED WHEEL (FAN) T BONE MARROW TRANSPLANT BOTTOM REGISTER C BIOLOGICAL SAFETY CABINETS BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE J BRITISH THERMAL UNIT JH BRITISH THERMAL UNIT PER HOUR TO BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL H CUBIC FEET PER MINUTE CENTRIFICAL CHILLED WATER PUMP CEILING GRILLE CHILLER P CHILLED WATER PUMP CEILING GRILLE CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP COLEAN OUT CEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE PURP COLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE PUMP COLLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK G CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE PUMP COLLING TOWER CONDENSATE STORAGE TANK G CLEAN OUT CARBON WATER COOLING COIL PCC CHILLED WATER COOLING COIL PCCC CHILLED WATER PUMP | ROL VALVE | DPS | DIFFERENTIAL PRESSURE SENSOR | HUM | HUMIDIFIER UNIT MOUNTED | NC | NOISE CRITERIA | SPS | STATIC PRESSURE SENSOR |
| AIR FOIL WHEEL (FAN) AIR-HANDLING UNIT P AMPERGE ACCESS PANEL D AIR PRESSURE DROP I AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS I AIR WASHER BUTTERFLY DAMPER D BACKDRAFT DAMPER R BASE BOARD RADIATOR BACKFLOW PREVENTER I BOILER PLANT FIRE TUBE BOTTOM GRILLE P BRAKE HORSEPOWER I BOILER BLOWDOWN HEAT EXCHANGER I BOILER BLOWDOFF TANK C BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE J BRITISH THERMAL UNIT BOTTOM REGISTER C BIOLOGICAL SAFETY CABINETS BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE J BRITISH THERMAL UNIT PER HOUR T BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COOLING COIL CELING DIFFUSER CENTIGRADE (CELCIUS) COOLING COIL COULING GRILLE CHILLER P CHILLED WATER PUMP CEILING GRILLE CHILLER P CHILLED WATER RETURN CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER HOUR CUBIC FEET PER SECOND CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN OUT CABRON DIVIT CABINET UNIT HEATER CONDENSATE STORAGE TANK CLEAN OUT CABINET UNIT HEATER CONDENSATE PUMP CEILING REGISTER CONDENSER WATER PUMP | | DX | DIRECT EXPANSION | HVU | HEATING AND VENTILATING UNIT | NC | NORMALLY CLOSED | SQ FT | SQUARE FOOT (FEET) |
| AIR-HANDLING UNIT AMPERGE ACCESS PANEL AIR PRESSURE DROP AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR AE AMERICAN SOCIETY OF MECHANICA ENGINEERS AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BARKE HORSEPOWER AND HOT WATER HEATING BOILER COLING COIL BRITISH THERMAL UNIT BOILER PLANT WATER TUBE COLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COULING COIL COULING FEET PER HOUR CUBIC METER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSER WATER PUMP | | DXCC | DIRECT EXPANSION COOLING COIL | HW | HOT WATER | NG | NATURAL GAS | SR | SUPPLY AIR REGISTER |
| P AMPERGE ACCESS PANEL D AIR PRESSURE DROP AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER D BACKDRAFT DAMPER R BASE BOARD RADIATOR P BACKFLOW PREVENTER D BICER BOTTOM GRILLE P BRAKE HORSEPOWER W HOT WATER HEATING BOILER X BOILER BLOWDOWN HEAT EXCHANGER B BACKWARD INCLINED WHEEL (FAN) T BONE MARROW TRANSPLANT BOTTOM REGISTER C BIOLOGICAL SAFETY CABINETS BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE BHITISH THERMAL UNIT PER HOUR T BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COOLING COIL CELLING DIFFUSER NT CENTRIFICAL H CUBIC FEET PER MINUTE CENTIGRADE (CELCIUS) COOLING FEET PER MINUTE CENTRIFICAL CUBIC FEET PER MINUTE CENTRIFICAL CUBIC FEET PER MINUTE CENTRIFICAL CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLER CHILLED WATER RETURN CHILLER WATER CHILLED WATER RETURN CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSER WATER PUMP | | | EVALACIOT ALD | HWC | HOT WATER COIL | NGFM | NATURAL GAS FLOWMETER | SS | STAINLESS STEEL |
| ACCESS PANEL AIR PRESSURE DROP AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER BUSTERFLY DAMPER BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE PERAKE HORSEPOWER WHOT WATER HEATING BOILER X BOILER BLOWDOWN HEAT EXCHANGER WBACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER C BIOLOGICAL SAFETY CABINETS BLOWOFF TANK C BLOWOFF C COLING COLL CONDENSATE DRAIN C C BLOWOFF C CHILLED WATER SUPPLY C CAST IRON C CARBON DIOXODE MP COMPRESSOR UNIT P COEFICIENT OF PERFORMANCE C CONDENSATE PUMP C CILING REGISTER C CONDENSATE STORAGE TANK C CLEAN STEAM GENERATOR C COLING TOWER CONDENSATE STORAGE TANK C CLEAN STEAM GENERATOR C COLING TOWER CONDENSATE STORAGE TANK C CLEAN STEAM GENERATOR C COLING TOWER CONDENSATE STORAGE TANK C CLEAN STEAM GENERATOR C COLING TOWER CONDENSATE STORAGE TANK C CLEAN STEAM C CLEAN STEAM C CLEAN STEAM C COLING COIL C C CHILLED WATER COOLING COIL C C CHILLED WATER COOLING | JNIT | EA | EXHAUST AIR | HWHC | HOT WATER HEATING COIL | NO NO A A | NORMALLY OPEN | SSHX | STEAM TO STEAM HEAT EXCHANGER |
| AIR PRESSURE DROP AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER D BACKDRAFT DAMPER R BASE BOARD RADIATOR BOILER PLANT FIRE TUBE BOTTOM GRILLE P BRAKE HORSEPOWER W HOT WATER HEATING BOILER X BOILER BLOWDOWN HEAT EXCHANGER BOTTOM REGISTER C BIOLOGICAL SAFETY CABINETS BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE J BRITISH THERMAL UNIT PER HOUR T BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL C UBIC FEET PER MINUTE C COILING COIL CONDENSATE DRAIN CEILING DIFFUSER C CHEMICAL FEED PUMP CEILING GRILLE CHILLED WATER RETURN S CHILLED WATER RETURN CARBON MONOXIDE CUBIC METER C CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK G CLEAN OUT CABINET UNIT HEATER CONDENSATE STORAGE TANK G CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK G CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK G CLEAN STEAM GENERATOR COLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COLING TOWER CONDENSER WATER PUMP | | EAT EC | ENTERING AIR TEMPERATURE EVAPORATIVE COOLER | HWP HWR | HEATING HOT WATER PUMP HEATING HOT WATER RETURN | NOAA | NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION | SSR ST | SOLID SEPARATOR STEAM TRAP |
| AIR CONDITIONING AND REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER D BACKDRAFT DAMPER R BASE BOARD RADIATOR BOILER BUTTOM GRILLE BOTTOM FEGISTER C BOLOGICAL SAFETY CABINETS BLOWOFF TANK C BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE J BRITISH THERMAL UNIT PER HOUR BOTTOM GOOL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING GRILLE CHILLED WATER TUBE CENTRIFICAL H CUBIC FEET PER HOUR CEILING GRILLE CHILLER P CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK G CLEAN OUT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | DROP | ECC | ENGINEERING CONTROL CENTER | HWS | HEATING HOT WATER RETORN HEATING HOT WATER SUPPLY | NOM | NOMINAL | SUH | STEAM UNIT HEATER |
| REFRIGERATION INSTITUTE AIR SEPARATOR ME AMERICAN SOCIETY OF MECHANICA ENGINEERS AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER D BACKDRAFT DAMPER R BASE BOARD RADIATOR D BACKFLOW PREVENTER I BOILER PLANT FIRE TUBE BOTTOM GRILLE D BRAKE HORSEPOWER W HOT WATER HEATING BOILER X BOILER BLOWDOWN HEAT EXCHANGER U BACKWARD INCLINED WHEEL (FAN) I BONE MARROW TRANSPLANT BOTTOM REGISTER C BIOLOGICAL SAFETY CABINETS BLOWOFF TANK C BLOWOFF TANK CONTROL VALVE D BRITISH THERMAL UNIT PER HOUR IT BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COILING DIFFUSER NT CENTRIFICAL H CUBIC FEET PER HOUR M CUBIC FEET PER MINUTE CEILING DIFFUSER CHEMICAL FEED PUMP CEILING GRILLE CHILLED WATER PUMP CEILING GRILLE CHILLED WATER RETURN S CHILLED WATER RETURN CARBON MONOXIDE CUBIC METER CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSER WATER PUMP | | ECU | EVAPORATIVE CONDENSER UNIT | HWUH | HOT WATER UNIT HEATER | NPLV | NON-STANDARD PART LOAD VALUE | SV | STEAM PRESSURE REDUCING VALVE |
| ME AMERICAN SOCIETY OF MECHANICA ENGINEERS AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER DE BACKDRAFT DAMPER DE BACKFLOW PREVENTER DE BACKFLOW PREVENTER DE BOTTOM GRILLE DE BRAKE HORSEPOWER DE BRAKE HORSEPOWER DE BOLIER BLOWDOWN HEAT EXCHANGER DE BACKWARD INCLINED WHEEL (FAN) DE BOTTOM REGISTER DE BIOLOGICAL SAFETY CABINETS BLOWOFF TANK DE BIOLOGICAL SAFETY CABINETS BLOWOFF TANK DE BRITISH THERMAL UNIT DE BRITISH THERMAL UNIT PER HOUR DE BRITISH THERMAL UNIT PER HOUR DE COLING COIL DE COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NOT CEILING DIFFUSER NOT CENTRIFICAL DE CHEMICAL FEED PUMP CEILING RILLE CHILLER DE CHILLED WATER PUMP WE CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSER WATER PUMP | N INSTITUTE | EDH | ELECTRIC DUCT HEATER | HVD | HOISTWAY VENT DAMPER | NPSH | NET POSITIVE SUCTION HEAD | SVS | STEAM VENT SILENCER |
| ENGINEERS AIR WASHER AXIAL FLOW BOILER BUTTERFLY DAMPER BASE BOARD RADIATOR BACKDRAFT DAMPER BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BRAKE HORSEPOWER WHOT WATER HEATING BOILER BOER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BIOLOGICAL SAFETY CABINETS BLOWOFF TANK CHILIER WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER COULING COIL CONDENSATE DRAIN CEILING GRILLE CHILLER CHILLER CHILLER CHILLER CHILLER CHILLER CHILLER CHILLER CHILLER CHILLED WATER PUMP CEILING GRILLE CHILLER CHILLED WATER RETURN CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING METER CONDENSATE STORAGE TANK CLEAN OUT CARBON DIOXODE COMPRESSOR UNIT COOFFICIENT OF PERFORMANCE CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | EER | ENERGY EFFICIENCY RATIO | HX | HEAT EXCHANGER | NTS | NOT TO SCALE | SWHX | STEAM TO WATER HEAT EXCHANGER |
| BOILER BUTTERFLY DAMPER BUTTERFLY DAMPER BUTTERFLY DAMPER BUTTERFLY DAMPER BUTTERFLY DAMPER BACKDRAFT DAMPER BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BOTTOM GRILLE BOTTOM GRILLE BOILER BLOWDOWN HEAT EXCHANGER BOILER BLOWDOWN HEAT EXCHANGER BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BIOWOFF TANK BIOWOFF TANK BIOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COULING FEET PER MINUTE CEILING DIFFUSER COUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLED WATER PUMP CEILING GRILLE CHILLED WATER RETURN CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSER WATER PUMP | ETY OF MECHANICAL | EF FO | EXHAUST CRILLE | HZ | HERTZ | 04 | OUTCIDE AID | T 0 DO' | TEMPERATURE AND RECOURS |
| BOILER BUTTERFLY DAMPER BACKDRAFT DAMPER BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BRAKE HORSEPOWER HOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT H BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING COIL COOLING GEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLED WATER PUMP CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CHILLED WATER SUPPLY CAST IRON CARBON DIOXODE CUBIC METER CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSER WATER PUMP | | EG EGS | EXHAUST GRILLE EMERGENCY GAS SHUTOFF | I/O | INPUT/OUTPUT | OA OAG | OUTSIDE AIR OUTSIDE AIR GRILLE | T & PCV | TEMPERATURE AND PRESSURE CONTROL VALVE |
| BOILER BUTTERFLY DAMPER BACKDRAFT DAMPER BASE BOARD RADIATOR BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BRAKE HORSEPOWER HOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT H BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL CUBIC FEET CHEMICAL FEED PUMP CEILING BIFLE CHILLER CHILLER CHILLER CHILLER WATER CHILLED WATER RETURN CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSER WATER PUMP | | EGS EGT | ENTERING GLYCOL TEMPERATURE | I/O IAQ | INDOOR AIR QUALITY | OAG | OUTSIDE AIR GRILLE OUTSIDE AIR INTAKE | TAB | TESTING, ADJUSTING, BALANCE |
| BUTTERFLY DAMPER BACKDRAFT DAMPER BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BRAKE HORSEPOWER WHOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT BRITISH THERMAL UNIT PER HOUR COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET PER MINUTE CUBIC FEET PER MINUTE CUBIC GRILLE CHILLER CHILLED WATER PUMP CEILING GRILLE CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR CONDENSING UNIT CABINET UNIT HEATER CONDENSER WATER PUMP | | EH | EXHAUST HOOD | IBT | INVERTED BUCKET TRAP | OD | OUTSIDE AIR INTARE OUTSIDE DIAMETER | TD | TEMPERATURE DIFFERENCE |
| BUTTERFLY DAMPER BACKDRAFT DAMPER BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BRAKE HORSEPOWER HOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT H BRITISH THERMAL UNIT PER HOUR COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER T CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLED WATER PUMP CEILING WATER RETURN CHILLED WATER RETURN CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN OUT CARBON DIOXODE COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSER WATER PUMP | | EJ | EXPANSION JOINT | ICF | IN-LINE CENTRIFUGAL FAN | OFM | OIL FLOWMETER | TDH | TOTAL DYNAMIC HEAD |
| BASE BOARD RADIATOR BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BRAKE HORSEPOWER WHOT WATER HEATING BOILER EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL CUBIC FEET PER HOUR CEILING DIFFUSER CENTRIFICAL CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER WATER CHILLED WATER PUMP CHILLER WATER CHILLED WATER RETURN CHILLED WATER RETURN CHILLED WATER SECOND CLEAN OUT CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER PUMP | | EMD | END OF MAIN DRIP (STEAM) | ICU | INTENSIVE CARE UNIT | OR | OPERATING ROOM | TDS | TOTAL DISSOLVED SOLIDS |
| BACKFLOW PREVENTER BOILER PLANT FIRE TUBE BOTTOM GRILLE BRAKE HORSEPOWER WHOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT BRITISH THERMAL UNIT BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COOLING COIL COBIC FEET PER MINUTE CUBIC MATER PUMP CHILLER WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER COHILLED WATER SECOND CLEAN OUT CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSER WATER PUMP | | ENT | ENTERING | ID. | INSIDE DIAMETER | _ | | TG | TRANSFER GRILLE |
| BOILER PLANT FIRE TUBE BOTTOM GRILLE BRAKE HORSEPOWER WHOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLED WATER PUMP CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER SCUBIC METER SCUBIC METER SCUBIC METER SCUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSER WATER PUMP | | ER EDC | EXHAUST REGISTER ELECTRIC REHEAT COIL | IFB | INTEGRAL FACE AND BYPASS | P | PUMP PASCAL | TP | TRAP |
| BOTTOM GRILLE BRAKE HORSEPOWER HOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLED WATER RETURN CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER SCUBIC METER CUBIC METER CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSER WATER PUMP | | ERC ERP | ELECTRIC REHEAT COIL ELECTRIC RADIANT PANEL | IN IN HG | INCHES INCHES OF MERCURY | PA PC | PASCAL PUMPED CONDENSATE | TR TSP | TOP REGISTER TOTAL STATIC PRESSURE |
| BRAKE HORSEPOWER HOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CHILLED WATER PUMP CEILING GRILLE CHILLER CHILLED WATER PUMP CHILLER WATER CHILLED WATER RETURN CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER COUBIC METER CONDENSATE SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE STORAGE TANK CLEAN OUT CARBON DIOXODE CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | ESP | EXTERNAL STATIC PRESSURE | IN WC | INCH WATER COLUMN | PCF | POUNDS PER CUBIC FOOT (FEET) | TSTAT | THERMOSTAT |
| HOT WATER HEATING BOILER BOILER BLOWDOWN HEAT EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT JH BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COOLING COIL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER WATER RETURN CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER CUBIC METER CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT COEFFICIENT OF PERFORMANCE CONDENSING UNIT COBIC METER CONDENSING UNIT COEFICIENT OF PERFORMANCE CONDENSING UNIT COEFICIENT OF PERFORMANCE CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT COEFICIENT OF OTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | ET | EXPANSION TANK | IN WG | INCH WATER GAUGE | PD | PRESSURE DROP | TU | TERMINAL UNIT |
| EXCHANGER BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT H BRITISH THERMAL UNIT PER HOUR BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL COULING DIFFUSER CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER WATER CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER SCUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT COFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER COOLING COIL CONDENSER WATER PUMP | | ETO | ETHYLENE OXIDE | IN-LB | INCH-POUND | PEF | PROPELLER (TYPE) EXHAUST FAN | TWU | THRU-WALL UNIT |
| BACKWARD INCLINED WHEEL (FAN) BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT BRITISH THERMAL UNIT PER HOUR COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET PER MINUTE CUBIC GRILLE CHILLED WATER PUMP CEILING GRILLE CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT COEFFICIENT OF COLING COIL CONDENSER WATER PUMP CCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | OWN HEAT | EUH | ELECTRIC UNIT HEATER | IPLV | INTERGRATED PART LOAD VALUE | PF | PRE-FILTER | | |
| BONE MARROW TRANSPLANT BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT JH BRITISH THERMAL UNIT PER HOUR TO BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER TO CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET PER MINUTE CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER WATER CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE CUBIC METER PER SECOND CLEAN OUT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | EWC | EVAPORATIVE WATER COOLER | IRH | INTRARED HEATER | PG | PRESSURE GAGE | UC | UNDER CUT |
| BOTTOM REGISTER BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT BRITISH THERMAL UNIT PER HOUR T BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLED WATER PUMP W CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT COFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | EWT | ENTERING WATER TEMPERATURE | IS | INSECT SCREEN | PGW | PROPYLENE GLYCOL-WATER | UC UH | UNIT COOLER UNIT HEATER |
| BIOLOGICAL SAFETY CABINETS BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT BRITISH THERMAL UNIT PER HOUR T BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLER CHILLER CHILLED WATER PUMP W CHILLER WATER R CHILLED WATER RETURN S CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT CARBON DIOXODE CUBIC METER CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | EX. | EXISTING | IU IV | INDUCTION UNIT INLET VANES | PHC | (SOLUTION) PREHEAT COIL | UL | UNIT HEATER UNDERWRITERS LABORATORY |
| BLOWOFF TANK BLOWOFF TANK CONTROL VALVE BRITISH THERMAL UNIT UH BRITISH THERMAL UNIT PER HOUR TO BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL H CUBIC FEET PER HOUR M CUBIC FEET PER MINUTE TOUBIC FEET P CHEMICAL FEED PUMP CEILING GRILLE CHILLER P CHILLED WATER PUMP W CHILLER WATER R CHILLED WATER RETURN S CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER VS CUBIC METER CUBIC METER CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT P COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT H CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | F | FAHRENHEIT | IV | INELT VAINES | PPM | PARTS PER MILLION | URV | UPBLAST UNIT VENTILATOR |
| BRITISH THERMAL UNIT JH BRITISH THERMAL UNIT PER HOUR T BOILER PLANT WATER TUBE CENTIGRADE (CELCIUS) COOLING COIL D COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL H CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLER WATER PUMP CHILLED WATER RETURN S CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | F&T | FLOAT AND THERMOSTATIC | kg | KILOGRAM | PRS | PRESSURE REGULATING (VALVE) | 5 | |
| CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLER WATER CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | F/SDPR | COMBINATION FIRE SMOKE DAMPER | kg/HR | KILOGRAM PER HOUR | | STATION | V | VALVE |
| CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLED WATER PUMP CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONSTANT VOLUME COLD WATER (POTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER (POTABLE) CCC CHILLED WATER COOLING COIL CONDENSER WATER (POTABLE) | | FA | FREE AREA | kPa | KILOPASCAL | PRV | PRESSURE REGULATING VALVE | VAF | VANE-AXIAL FAN |
| CENTIGRADE (CELCIUS) COOLING COIL COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLED WATER PUMP CHILLER WATER CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FC | FLEXIBLE CONNECTION | kW | KILOWATT | PSI | POUNDS PER SQUARE INCH | VAV | VARIABLE AIR VOLUME |
| COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLER WATER CHILLED WATER RETURN CARBON MONOXIDE CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE CUBIC METER COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CUBIC METER CONDENSATE STORAGE TANK CUBIC METER CONDENSING UNIT CUBIC METER CUBIC METE | VATER TUBE | FCU FCUC | FAN COIL UNIT (4 PIPE) FAN COIL UNIT COOLING ONLY | kWh | KILOWATT HOUR | PSIA | POUNDS PER SQUARE INCH – ABSOLUTE | VD | VOLUME DAMPER (MANUAL OPPOSED BLADE) |
| COOLING COIL COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER NT CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLER WATER CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE CUBIC METER COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK COULING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | FLCIUS) | FCUH | FAN COIL UNIT HEATING ONLY | I | LITER | PSIG | POUNDS PER SQUARE INCH – GAGE | VFD | VARIABLE FREQUENCY DRIVE |
| COOLING COIL CONDENSATE DRAIN CEILING DIFFUSER CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLED WATER PUMP CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | 223.00) | FCW | FORWARD CURVED WHEEL (FAN) | L/h | LITERS PER HOUR | PSS | PRIMARY SECONDARY SYSTEM | VHA | VETERANS HEALTH ADMINISTRATION |
| CENTRIFICAL CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLED WATER PUMP CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FD | FLOOR DRAIN | L/m | LITERS PER MINUTE | PSV | PRESSURE SAFETY VALVE | VI | VIBRATION ISOLATOR |
| CUBIC FEET PER HOUR CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLED WATER PUMP CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE IP COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | ER | FD | FIRE DAMPER | L/s | LITERS PER SECOND | PTAC | PACKAGED TERMINAL AIR | VIV | VARIABLE INLET VANES |
| CUBIC FEET PER MINUTE CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLER CHILLED WATER PUMP CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CONDENSER WATER PUMP | N LIGHT | FF | FINAL FILTER | LAT | LEAVING AIR TEMPERATURE | | CONDITIONER | VP | VACUUM PUMP |
| CUBIC FEET CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLED WATER PUMP CHILLED WATER PUMP CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FHX | FLUE GAS/FEEDWATER HEAT EXCHANGER | LBS/HR LF | POUNDS PER HOUR LINEAR FOOT (FEET) | R/E | RETURN OR EXHAUST | VPS VR | VARIABLE PRIMARY SYSTEM VACUUM (STEAM CONDENSATE) |
| CHEMICAL FEED PUMP CEILING GRILLE CHILLER CHILLED WATER PUMP CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE TO COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | NIVIIINU I □ | FM | FLOW METER | LGT | LINEAR FOOT (FEET) LEAVING GLYCOL TEMPERATURE | R/E RA | RETURN OR EXHAUST RETURN AIR | V IT | RETURN |
| CEILING GRILLE CHILLER CHILLED WATER PUMP CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP |) PUMP | FOP | FUEL OIL PUMP | LH | LATENT HEAT | RAD | REFRIGERANT AIR DRYER | VSD | VARIABLE SPEED DRIVE |
| CHILLER CHILLED WATER PUMP CHILLED WATER CHILLED WATER CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE TO COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FOT | FUEL OIL TANK | LPG | LIQUID PROPANE GAS | RAF | RADIO FREQUENCY | VUH | VERTICAL UNIT HEATER |
| CHILLER WATER CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE IP COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FOHX | FUEL OIL HEAT EXCHANGER | LPR | LOW PRESSURE RETURN (STEAM | RAHX | ROTARY AIR HEAT EXCHANGER | | |
| CHILLED WATER RETURN CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE IP COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FPM | FEET PER MINUTE | 1000 | CONDENSATE) | RAT | RETURN AIR TEMPERATURE | W | WATTS |
| CHILLED WATER SUPPLY CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE PCOMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CCCC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FPS FPTU | FEET PER SECOND | LPRC | LOW PRESSURE STEAM RETURN | RCCH | REMOTE CONDENSER CHILLER RECIPROCATING CHILLER UNIT | WAG Wb | WASTE ANETHESIA GAS |
| CAST IRON CARBON MONOXIDE CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE P COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FPTU FR | FAN POWERED TERMINAL UNIT FLOOR REGISTER | LLHX | (CLEAN) LIQUID TO LIQUID HEAT EXCHANGER | RCU RD | RECIPROCATING CHILLER UNIT REFRIGERANT DISCHARGE | Wb WC | WET-BULB (TEMPERATURE) WATER COOLED |
| CARBON MONOXIDE CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE PCOMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CHILLED WATER COOLING COIL CONDENSER WATER PUMP | COULTE! | FRP | FIBER REINFORCED POLYESTER | LPS | LOW PRESSURE STEAM | RDS | ROOM DATA SHEETS | WCCH | WATER COOLED CHILLER |
| CUBIC METER CUBIC METER PER SECOND CLEAN OUT CARBON DIOXODE COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | KIDE | FS | FLOW SWITCH | LPSC | LOW PRESSURE STEAM (CLEAN) | REA | RELIEF AIR | WCCU | WATER COOLED CONDENSING UNIT |
| CLEAN OUT CARBON DIOXODE COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FSTAT | FREEZESTAT | LSD | LINEAR SLOT DIFFUSER ` | RF | RETURN FAN | WCHP | WATER COOLED HEAT PUMPS |
| CARBON DIOXODE P COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) C CHILLED WATER COOLING COIL CONDENSER WATER PUMP | ER SECOND | FT | FEET | LTCP | LOCAL TEMPERATURE CONTROL | RG | RETURN GRILLE | WCPU | WATER COOLED PACKAGED UNIT |
| P COMPRESSOR UNIT COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) C CHILLED WATER COOLING COIL CONDENSER WATER PUMP | D.E. | FT-LB | FOOT-POUND | | PANEL | RH | RELATIVE HUMIDITY | WEF | WALL EXHAUST FAN |
| COEFFICIENT OF PERFORMANCE CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) C CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | FTR FV | FIN TUBE RADIATION | LVG | LEAVING LOUVER | RHC RHG | REHEAT COIL REFRIGERANT HOT GAS | WF WFCV | WATER FLOW CONTROL VALVE |
| CONDENSATE PUMP CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) C CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | ۲V | FACE VELOCITY | LVR LWT | LOUVER LEAVING WATER TEMPERATURE | RHG RL | REFRIGERANT HOT GAS REFRIGERANT LIQUID LINE | WFCV WFM | WATER FLOW CONTROL VALVE WATER FLOWMETER |
| CEILING REGISTER CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | GA | GAUGE | ∟vV I | LEAVING WATER TEINI LIVATURE | RLA | RUN LOAD AMPERE | WFMD | WATER FLOWIMETER WATER FLOW MEASURING DEVICE |
| CONDENSATE STORAGE TANK CLEAN STEAM GENERATOR COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | GAL | GALLONS | M | METER, SI UNIT | RO | REVERSE OSMOSIS | WG | WATER GAGE |
| COOLING TOWER CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | TORAGE TANK | GH | GRAVITY HOOD | M/s | METERS PER SECOND (OR | RPM | REVOLUTIONS PER MINUTE | WPD | WATER SIDE PRESSURE DROP |
| CONDENSING UNIT CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | GPD | GALLONS PER DAY | | METERS/SECOND) | RR | RETURN REGISTER | | |
| CABINET UNIT HEATER CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | GPH | GALLONS PER HOUR | MA | MIXED AIR | RS | REFRIGERANT SUCTION | YR | YEAR |
| CONSTANT VOLUME COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | GPM CDD | GALLONS PER MINUTE | MAT | MIXED AIR TEMPERATURE | RTU DV | ROOF TOP UNIT | | |
| COLD WATER (POTABLE) CC CHILLED WATER COOLING COIL CONDENSER WATER PUMP | | GPR GS | GAS PRESSURE REGULATOR GALVANIZED STEEL | MAU MAV | MAKE-UP AIR UNIT MANUAL AIR VENT | RV SA | RELIEF VALVE SUPPLY AIR | | |
| CC CHILLED WATÈR COOLING COIL CONDENSER WATER PUMP | | GS | GALVAINIZED STEEL | MAX | MAXIMUM MAXIMUM | SA SAD | SUPPLY AIR SOUND ATTENUATING DEVICE | | |
| CONDENSER WATER PUMP | | Н | HUMIDIFER | MB | MIXING BOX | SAD | SUPPLY AIR TEMPERATURE | | |
| | | H&CW | HOT & COLD WATER | MBH | 1000 BTUH | SC | SHADING COEFFICIENT | | |
| | ATER RETURN (TO | HAC | HOUSEKEEPING AID CLOSET | MCA | MINIMUM BRANCH CIRCUIT AMPACITY | SCFM | STANDARD CUBIC FEET PER MINUTE | | |
| COOLING TOWER) | | HB | HOSE BIBB | MER | MECHANICAL EQUIPMENT ROOM | SCI | SPINAL CODE INJURY | | |
| CONDENSER WATER SUPPLY (FROM COOLING TOWER) | | HC HD | HEATING COIL HEAD | MERV | MINIMUM EFFICIENCY REPORTING VALUE | SCR SD | SILICON CONTROLLED RECTIFIER SMOKE DETECTOR | | |

DEDUCT ALTERNATES: ALTERNATE NO. 1: REMOVE METAL CANOPY AND ASSOCIATED STRUCTURE AT BOT PEDESTRIAN WALKWAYS AND THE VEHICLE ENTRY. MOUNT SIGNAGE DIRECTLY TO CONCRETE STRUCTURE. ALTERNATE NO. 2: REDUCE AMOUNT OF LANDSCAPING. ALTERNATE NO. 3: PROVIDE T5 FLUORESCENT LIGHT FIXTURE IN LIEU OF LED LIGHTING FIXTURE. DO NOT PROVIDE BROWN CONCRETE STAIN ON COLUMNS AT FIRST DO NOT PROVIDE CAST STONE AND INSTALL STUCCO IN ALL LOCATIONS WHERE CAST STONE IS SHOWN. ALTERNATE NO. 6: DEDUCT THE CAB. DOORS AND ASSOCIATED EQUIPMENT FOR ELEVATOR #2. PROVIDE CONCRETE BLOCK INFILL IN PLACE OF DOORS, FINISH TO MATCH ADJACENT WALL. ALTERNATE NO. 7: DO NOT CONSTRUCT SOUTH ACCESS DRIVE, DO NOT RELOCATE TELECOMMUNICATIONS MANHOLE/ASSOCIATED WIRING. DO NOT CONSTRUCT PLAZA COURTYARD, DO NOT PROVIDE/RELOCATE SITE LIGHTING ALONG SOUTH ACCESS DRIVE. DO NOT PROVIDE ACCESS CONTROL EQUIPMENT, CONSTRUCT SIDEWALK AND PEDESTRIAN CROSSING AS INDICATED IN DRAWINGS FOR THIS ALTERNATE. ALTERNATE NO. 8: REDUCE AMOUNT OF SITE SIGNAGE. ALTERNATE NO. 9: PROVIDE AN ADDITIONAL 3RD FLOOR PARKING DECK. EXTEND ELEVATOR AND STAIR SHAFTS VERTICALLY BY 12 FEET.



Date

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501



∠CooverClark

ARCHITECTURE:

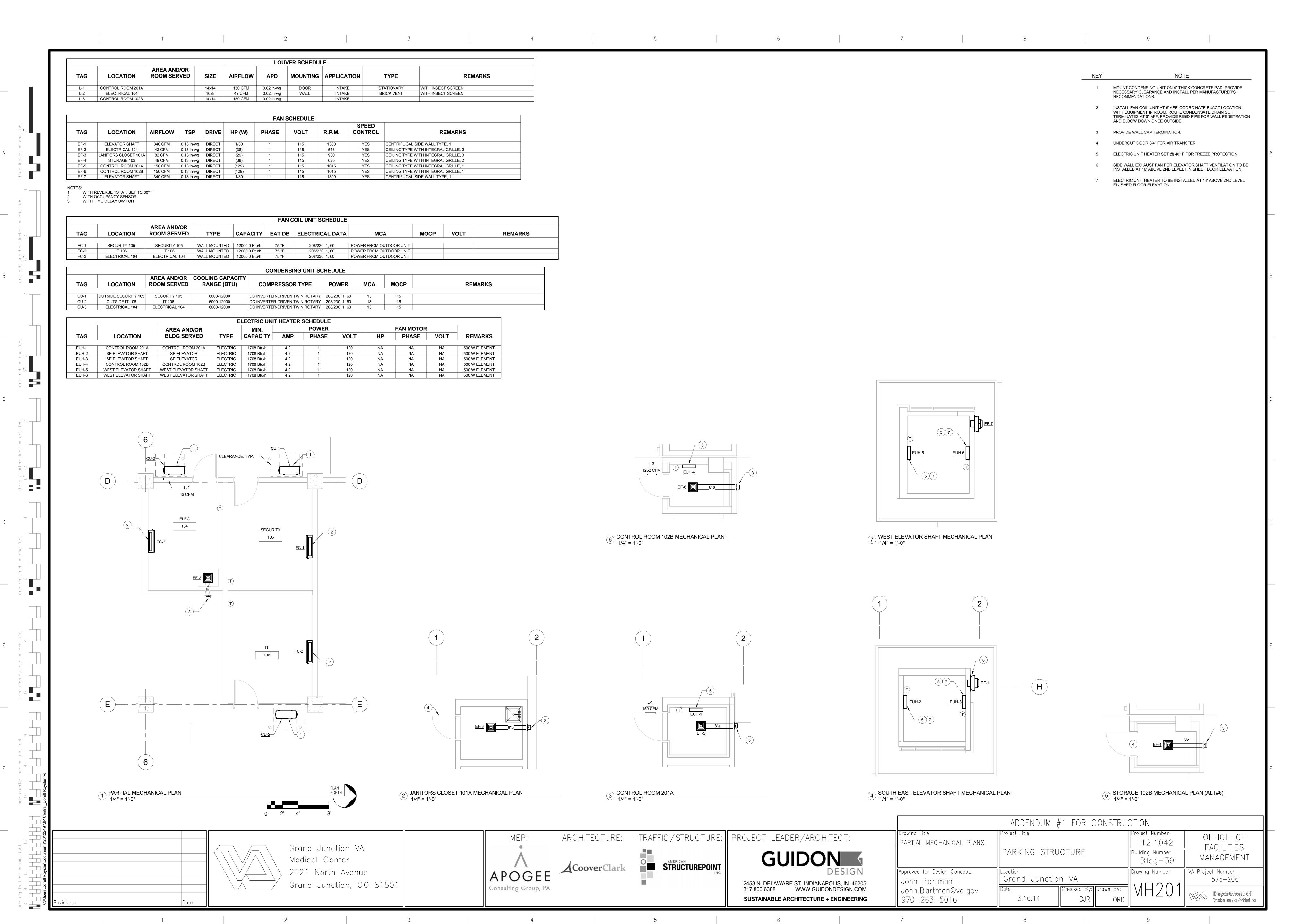




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ADDENDUM #1 FOR CONSTRUCTION Drawing Title MECHANICAL NOTES AND LEGEND PARKING STRUCTURE Approved for Design Concept:

OFFICE OF 12.1042 FACILITIES Building Number MANAGEMENT Bldg-39 Drawing Number **]** VA Project Number Grand Junction VA 575-206 John Bartman John.Bartman@va.gov Department of Veterans Affairs 970-263-5016 3.10.14



ELECTRICAL LEGEND

120V DUPLEX RECEPTACLE: 18" AFF STANDARD, UNO 120V DUPLEX RECEPTACLE: GFI 18" AFF STANDARD, UNO 120V DUPLEX RECEPTACLE: WEATHERPROOF GFI

120V DUPLEX RECEPTACLE EMERGENCY: 18" AFF STANDARD, UNO

120V DUPLEX RECEPTACLE EMERGENCY: GFI 18" AFF STANDARD, UNO

120V QUADRUPLEX RECEPTACLE: 18" AFF STANDARD, UNO 120V QUADRUPLEX RECEPTACLE: GFI 18" AFF STANDARD, ₩_{GFI}

120V QUADRUPLEX RECEPTACLE EMERGENCY: 18" AFF STANDARD, UNO

JUNCTION BOX PURPOSE AS NOTED

JUNCTION BOX IN WALL PURPOSE AS NOTED: 18" AFF

DISCONNECT SWITCH NON-FUSED DISCONNECT SWITCH FUSED

DATA/TELCO OUTLET: 18" AFF STANDARD UNO

DATA OUTLET: 18" AFF STANDARD UNO WALL TELCO OUTLET: 48" AFF STANDARD UNO

WALL EMERGENCY TELCO OUTLET: 48" AFF STANDARD UNO

TELEVISION

SINGLE POLE WALL SWITCH: 44" AFF STANDARD UNO TWO GANG SINGLE POLE WALL SWITCH: 44" AFF

STANDARD UNO THREE WAY WALL SWITCH: 44" AFF STANDARD UNO

TWO GANG THREE WAY WALL SWITCH: 44" AFF

FOUR WAY WALL SWITCH: 44" AFF STANDARD UNO MOTOR RATED SWITCH: 44" AFF STANDARD UNO

KEY OPERATED WALL SWITCH: 44" AFF STANDARD UNO

KEY OPERATED THREE WAY WALL SWITCH: 44" AFF

OCCUPANCY SENSOR DUAL TECHNOLOGY WALL SWITCH: 44" AFF STANDARD UNO OCCUPANCY SENSOR DUAL TECHNOLOGY LOW VOLTAGE

OCCUPANCY SENSOR DUAL TECHNOLOGY LOW VOLTAGE SWITCH PAK

CEILING MOUNTED

CARD READER HANDICAP PUSH PLATE ELECTRONIC DOOR OPENER

SPEAKER

REMOVE METAL CANOPY AND ASSOCIATED STRUCTURE AT BOT PEDESTRIAN WALKWAYS AND THE VEHICLE ENTRY. MOUNT SIGNAGE DIRECTLY TO CONCRETE STRUCTURE.

ALTERNATE NO. 2: REDUCE AMOUNT OF LANDSCAPING.

DEDUCT ALTERNATES:

FIRST FLOOR.

PROVIDE T5 FLUORESCENT LIGHT FIXTURE IN LIEU OF LED LIGHTING FIXTURE.

ALTERNATE NO. 4: DO NOT PROVIDE BROWN CONCRETE STAIN ON COLUMNS AT

DO NOT PROVIDE CAST STONE AND INSTALL STUCCO IN ALL

LOCATIONS WHERE CAST STONE IS SHOWN.

DEDUCT THE CAB, DOORS AND ASSOCIATED EQUIPMENT FOR ELEVATOR #2. PROVIDE CONCRETE BLOCK INFILL IN PLACE OF

DO NOT CONSTRUCT SOUTH ACCESS DRIVE, DO NOT RELOCATE TELECOMMUNICATIONS MANHOLE/ASSOCIATED WIRING. DO NOT CONSTRUCT PLAZA COURTYARD, DO NOT PROVIDE/RELOCATE SITE LIGHTING ALONG SOUTH ACCESS DRIVE. DO NOT PROVIDE ACCESS CONTROL EQUIPMENT. CONSTRUCT SIDEWALK AND

PEDESTRIAN CROSSING AS INDICATED IN DRAWINGS FOR THIS

ALTERNATE. **ALTERNATE NO. 8:** REDUCE AMOUNT OF SITE SIGNAGE.

DOORS, FINISH TO MATCH ADJACENT WALL.

PROVIDE AN ADDITIONAL 3RD FLOOR PARKING DECK. EXTEND ELEVATOR AND STAIR SHAFTS VERTICALLY BY 12 FEET.

Date

BUILDING CODE DATA ELECTRICAL SYSTEM AND EQUIPMENT **ENERGY COST BUDGET** METHOD OF COMPLIANCE: PRESCRIPTIVE PERFORMANCE LIGHTING SCHEDULE LAMP TYPE REQUIRED IN FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE NUMBER OF LAMPS IN FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE BALLAST TYPE USED IN THE FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE NUMBER OF BALLASTS IN FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE TOTAL WATTAGE PER FIXTURE: REFER TO LIGHT FIXTURE SCHEDULE TOTAL INTERIOR WATTAGE SPECIFIED VS. ALLOWED: 13,383 W SPECIFIED VS. 49,632 W ALLOWED TOTAL EXTERIOR WATTAGE SPECIFIED VS. ALLOWED: 2,830 W SPECIFIED VS. 4,216 W ALLOWED EQUIPMENT SCHEDULES WITH MOTORS (NOT USED FOR MECHANICAL SYSTEMS) MOTOR HORSEPOWER: 80 NUMBER OF PHASES: MINIMUM EFFICIENCY: MOTOR TYPE: NUMBER OF POLES: **DESIGNER STATEMENT:** TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF ANSI/ASHRAE/IESNA STANDARD 90.1-2007. JOHN MICHAEL BEEZLEY

PROFESSIONAL ENGINEER

4

DEMO

DIAG

DISC

DISTR

DMR SW

DRSW

DWG

ELEV

EMCP

EMER

EWC

EWH

FAAP

FABL

FACP

FLUOR

FU SW

FVNR

GTB

INCAND

kVAH

kVAR

FLUOR FIX

G OR GND

EX, EXIST

SINGLE-PHASE

SINGLE POLE

THREE-PHASE

FOUR-WIRE

ACCESSIBLE

ADDITIONAL

A/C UNIT

ADDL

ADJ

ADO

AFC

AMB OR

AMP

ASC

ATS

AUTO

BLDG

BPIP

CALC CAP

CATV

CCR

CCTV

CKT BRKR

COAX COMM COMPT CONC CONT

CONTR

COORD

CU FT

TITLE:

ARCH

TWO-CONDUCTOR

THREE-CONDUCTOR

FOUR-CONDUCTOR

AIR CONDITIONING UNIT

ARCHITECT/ENGINEER

ADJACENT, ADJOINING

AUTOMATIC DOOR OPENER

ABOVE FINISHED COUNTER,

AVAILABLE FAULT CURRENT

AUTHORITY HAVING JURISDICTION

AMPERE INTERRUPTING CAPACITY

AUTOMATIC TRANSFER SWITCH

ABOVE FINISHED FLOOR

ABOVE FINISHED GRADE

AMPS SHORT CIRCUIT

BELOW FINISH FLOOR

BASIC INSULATION LEVEL

BOILER PLANT INTRUMENTATION

COMMUNITY ANTENNA TELEVISION

CONTROL CONTACTOR

CLOSED CIRCUIT TELEVISION

CONSTRUCTION DOCUMENTS

CONTRACTOR FURNISHED

CONTRACTOR FURNISHED

CHILLED WATER PUMP

CURRENT LIMITING FUSE

CONCRETE MASONRY UNIT

CONTROL POWER TRANSFORMER

COLOR RENDERING INDEX

CURRENT TRANSFORMER

CABLE TELEVISION

AMPERE HOUR

AI TERNATE

ARCHITECT

AMPERE TRIP

AUTOMATIC

BATTERY

BUII DING

BREAKER

BY PASS

CONDUIT

CABINET

CALCULATE

FOUIPMENT

CEILING

COAX CABLE

CONCRETE

CONTINUE

CUBIC FEET

CURRENT

CONTRACTOR

COORDINATE

COMMUNICATION

COMPARTMENT

CHILLED WATER

CIRCUIT BREAKER

CAPACITY

AUDIO VISUAL

BARE COPPER

AMBIENT

AMPERE

AMPERE FRAME OR AMP FUSE

ALARM ANNUNCIATOR PANEL

ALTERNATING CURRENT OR ARMORED

AUTOMATIC FREQUENCYCONTROL, OR

ABBREVIATIONS

LTCP

LTG

MAX

MLO

MTS

NEMA

NTS

RCP

RECEPT

LIGHT EMITTING DIODE

LOW PRESSURE SODIUM

MINIMUM CIRCUIT AMPS

MINIMUM CIRCUIT BREAKER

MOTOR CONTROL CENTER

MAIN DISTRIBUTION PANEL

MANUAL TRASNFER SWITCH

NATIONAL ELECTRICAL CODE

LOCAL TEMPERATURE CONTROL PANEL

MASTER ANTENNA TELEVISION SYSTEM

MAXIMUM OVERCURRENT PROTECTION

NATIONAL ELECTRICAL MANUFACTURERS

NATIONAL FIRE PROTECTION ASSOCIATION

PANELBOARD, PULL BOX, OR PUSHBUTTON

PREFABRICATED BEDSIDE PATIENT UNIT

POLYCHLORINATED BIPHENYL

POWER OPERATED DAMPER

POWER TYPE ROOF VENTILATION

POLYVINYL CHLORIDE (PLASTIC)

POTENTIAL TRANSFORMER

REFLECTED CEILING PLAN

RIGID GALVANIZED STEEL

SHORT CIRCUIT CAPACITY

SERVICE ENTRANCE SECTION

ROOT MEAN SQUARE

SMOKE DETECTOR

SQUARE FOOT (FEET)

PHOTOELECTRIC CELL

LOCKED ROTAR AMPS

LINEAR FEET (FOOT)

LIGHT POLE

LIGHTING

LIGHTNING

MAXIMUM

METAL-CLAD

MECHANICAL

MANHOLE

MINIMUM

MOUNT

MOUNTED

MOUNTING

MOTOR GENERATOR

MAIN LUGS ONLY

MEDIUM VOLTAGE

NOT APPLICABLE

NOT IN CONTRACT

NORMALLY OPEN

OUTSIDE DIAMETER

PUBLIC ADDRESS

ASSOCIATION

NIGHT LIGHT

NOT TO SCALE

ON CENTER

OVERLOAD

PEDESTAL

PENDANT

RECESSED

REQUIRED

RECEPTACLE

PHASE

PANEL

POWER FACTOR

NO SCALE

NEUTRAL

MEGAVOLT-AMPERE

MEGAWATT MICROWAVE

LIGHTING PANEL

LOW VOLTAGE

DECIBEL OR DIRECT BURIAL

DIMMER CONTROL PANEL

DEGREES FAHRENHEIT

DISTRIBUTION PANEL

DISCONNECT SWITCH

EQUIPMENT GROUND

ELECTRIC OR ELECTRICAL

EMERGENCY MONITORING CONTROL

ELECTROMAGNETIC INTERFERENCE

FIRE ALARM ANNUNCIATOR PANEL

FIRE ALARM CONTROL PANEL

FULL VOLTAGE NON-REVERSING

GROUNFD FAULT CIRCUIT INTERRUPTOR

ILLUMINATION ENGINEERING SOCIETY

INTERMEDIATE METAL CONDUIT

INSTANTANEOUS WATER HEATER

KILOVOLT AMPERE PER HOUR

KILOVOLT AMPERE REACTIVE

KILOWATT HOUR METER

FULL VOLTAGE REVERSING

GROUND TERMINAL BOX

HAND-OFF-AUTOMATIC

OF NORTH AMERICA

INCANDESCENT

JUNCTION BOX

KILOVOLT AMPERE

KILOWATT HOUR

INFRARED

KILOVOLT

KILOWATT

HIGH INTENSITY DISCHARGE

ELECTRICAL METALLIC TUBING

EMERGENCY POWER OFF

ELECTRIC WATER COOLER

ELECTRIC WATER HEATER

EXPLOSION PROOF

DOUBLE POLE, DOUBLE THROW

DOUBLE POLE, SINGLE THROW

DIMMER SWITCH

DIRECT CURRENT

DEGREES CELSIUS

DEMOLITION

DISCONNECT

DISTRIBUTION

DOOR SWITCH

EMPTY CONDUIT

DRAWING

ELEVATION

ELEVATOR

EMERGENCY

ENCLOSURE

EASMENT

EXISTING

FIRE ALARM

FIRE ALARM BELL

FIRE ALARM BOX

FILM ILLUMINATOR

FLUORESCENT FIXTURE

FOOTCANDLE

FLOODLIGHT

FLUORESCENT

FEET OR FOOT

FUSED SWITCH

GENERATOR

HORSEPOWER

FIXTURE

DIAGRAM

GENERAL NOTES

ALL ELECTRICAL DEVICES, FIXTURES, EQUIPMENT AND FEEDERS SHALL BE INSTALLED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, THE MANUFACTURER'S RECOMMENDED PROCEDURES, ALL APPLICABLE LOCAL AND STATE CODES, AMERICAN DISABILITIES ACT AND WITH THE 2011 NATIONAL ELECTRICAL

INTERNATIONAL SYSTEM OF UNITS

SINGLE POLE, SINGLE THROW

TWISTED PAIR SHIELDED

UNDERFLOOR DUCT

UNDERGROUND

VOLAT AMPERE

WATER HEATER

WEATHERPROOF

TRANSFORMER

TRANSFER

VOLT AMPERE REACTIVE

VARIABLE FREQUENCY DRIVE

TELEPHONE TERMINAL BOARD

UNDERWRITERS LABORATORY UNLESS OTHERWISE NOTED

UNINTERRUPTIBLE POWER SUPPLY

SPECIFICATION

SWITCHBOARD

SWITCHGEAR

TIMECLOCK

TELEPHONE

TELEVISON

TYPICAL

UTILITY

VOLTAGE

TWISTED PAIR

SURFACE

SWITCH

SURF

SWBD

SWGR

VAR

XFER

XFMR

- PROVIDE ADDITIONAL SUPPORT FOR DEVICES, FIXTURES, EQUIPMENT AND FEEDERS WHERE THE BUILDING CONSTRUCTION IS NOT SUITABLE FOR DIRECT MOUNTING.
- FIRESTOP, DRAFTSTOP, SMOKESTOP AND/OR PROTECT THE ANNULAR SPACE AROUND ALL PENETRATIONS THROUGH WALLS, PARTITIONS, FLOORS, CEILING, AND ROOFS IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, UL LISTING REQUIREMENT AND THE APPLICABLE
- VERIFY CEILING SYSTEMS AND PROVIDE MOUNTING ACCESSORIES, TRIMS AND ALL REQUIRED MOUNTING HARDWARE TO SUIT THE PARTICULAR INSTALLATION.
- PROTECT EXISTING UNDERGROUND AND BUILDING INTERIOR UTILITIES DURING CONSTRUCTION.
- BRANCH CIRCUIT CONDUCTORS SHALL BE 12 AWG COPPER MINIMUM.
- COORDINATE ANY AND ALL WORK WITH ALL OTHER TRADES PRIOR TO INSTALLATION SO AS TO AVOID CONFLICT DURING CONSTRUCTION.
- ALL PANELS SHALL HAVE TYPED, COMPLETED DIRECTORIES INDICATING EQUIPMENT SERVED AND ROOM NUMBER (AS INDICATED ON FINAL BUILDING ROOM SIGNAGE) OF EQUIPMENT LOCATION, OR SPARE, OR SPACE.

PURPOSES, TO INDICATE A QUALITY STANDARD AND ARE NOT INTENDED TO LIMIT PRODUCTS TO A PARTICULAR MANUFACTURER. PRODUCTS DEEMED EQUAL AND

APPROVED BY THE DESIGNER WILL BE ACCEPTED. ALL PRODUCTS MUST COMPLY

MANUFACTURER'S NAME AND MODEL NUMBER ARE FOR BASIS OF DESIGN

- ALL FEEDERS AND CIRCUITRY SHALL BE TORQUED PER THE PANEL, BREAKER,
- 12. MOUNTING HEIGHTS INDICATED ARE TO CENTER OF DEVICE, OUTLET, FIXTURE, OR EQUIPMENT UNLESS NOTED OTHERWISE.

WITH "BUY AMERICAN ACT".

- 14. ALL CONDUCTORS SHALL HAVE THHN/THWN INSULATION, UNLESS OTHERWISE NOTED.
- 15. ALL CONDUIT SHALL BE RGS, EMT, OR LFMC UNLESS OTHERWISE NOTED. FMC
- ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL LISTED BY AN APPROVED THIRD PARTY TESTING AGENCY.
- MANUFACTURER'S TRADE NAMES AND NUMBERS USED HEREIN ARE ONLY TO IDENTIFY COLORS, FINISHED, TEXTURES AND PATTERNS AS THE BASIS OF THE DESIGN. PRODUCTS OF AUTHORIZED EQUAL MANUFACTURER'S EQUIVALENT TO COLORS, FINISHES, TEXTURES AND PATTERNS OF MANUFACTURERS LISTED THAT MEET REQUIREMENTS OF TECHNICAL SPECIFICATIONS IN EVERY RESPECT MAY BE ACCEPTABLE WITH SUBMITTAL OF A COMPLETED SUBSTITUTION REQUEST CONTAINING ALL PRODUCT DATA. TESTING AND ACTUAL SAMPLES

| LIGHT FIXTURE SCHEDULE | | | | | | | | |
|------------------------|--------------|-----------------------------|-------------------|---------|---|--|--|--|
| SYMBOL | LABEL | TYPE OF LAMP | WATTS/ FIXTURE | VOLTAGE | DESCRIPTION | | | |
| ├ | A | LED 4100K | 59 | 277 | 4' ROUGH SURFACE LINEAR LED STRIP LIGHT. | | | |
| \triangle | B2 | LED 4000K | 16 | 277 | EXTERIOR 9" X 6-3/4" X 7-1/8" SURFACE MOUNTED LED SURFACE WASHER. SUITABLE FOR WET LOCATIONS. | | | |
| | С | LED | 20 | 120 | WALL MOUNTED LED VAPORPROOF SECURITY LIGHT WITH PROTECTIVE CAGE. | | | |
| ⊗ | EXA | LED | 3 | 277 | SINGLE-FACE LED EMERGENCY EXIT SIGN WITH DIRECTIONAL INDICATOR. WITH BATTERY BACK UP. | | | |
| \$ | EXB | LED | 4 | 277 | DOUBLE FACE LED EMERGENCY EXIT SIGN WITH DIRECTIONAL INDICATOR. WITH BATTERY BACK UP. | | | |
| | G1 | LED 4000K 80 CRI | 55 | 277 | PENDANT MOUNT ROUND LED TYPE V WIDE PARKING GARAGE LIGHT WITH TEXTURED POLYCARBONATE LENS MOUNTED AT 9'-0" AFF TYPICAL. SUITABLE FOR DAMP LOCATIONS. | | | |
| | G1 ALT-3 | TWO 54W T5HO 4000K | 121 | 277 | 4' 2 LAMP FLUORESCENT PARKING GARAGE LUMINAIRE WITH SINGLE PROGRAM START BALLAST, 1.0 BALLAST FACTOR. SUITABLE FOR DAMP LOCATIONS. | | | |
| (<u>()</u> | GR | LED 4000K | 21 | 277 | EXTERIOR ROUND FLUSH LENS SHALLOW ADJUSTABLE INGRADE LED. SUITABLE FOR WET LOCATIONS. | | | |
| (3) | M | LED 4000K | 9 | 277 | EXTERIOR ROUND FLUSH LENS SHALLOW TILT ANGLE ADJUSTABLE INGRADE LED. SUITABLE FOR WET LOCATIONS. | | | |
| 0 0 | P | LED 4000K | 70 | 277 | 48" X 2-5/8" X 3-3/8" INTERIOR LINEAR PENDANT MOUNTED ARCHITECTURAL LED. PENDANT LENGTH TO BE COORDINATED IN THE FIELD. SUITABLE FOR DAMP LOCATIONS. | | | |
| 0 | R | LED 4000K | 45 | 277 | EXTERIOR RECESSED 6" LED DOWNLIGHT SUITABLE FOR WET LOCATIONS. | | | |
| 9 | PP1 | 160 LED 4000K | 265 | 277 | EXTERIOR POLE MOUNTED RETANGULAR LED TYPE IV MEDIUM AREA LIGHT WITH 525mA ELECTRONIC DRIVER AND 20' POLE. | | | |
| | PP1 ALT-3 | 400W PSMH 4000K | 456 | 277 | EXTERIOR ARCHITECTURAL POLE MOUNTED RECTANGULAR PULSE START METAL HALIDE TYPE IV WIDE, FORWARD THROW FULL CUT OFF AREA LIGHT WITH 20' POLE | | | |
| 显 | W1 | LED | 40 | 277 | EXTERIOR WALL MOUNTED BI-DIRECTIONAL LED. SUITABLE FOR WET LOCATIONS. | | | |
| | W2 | LED 4000K | 7 | 277 | IMPACT RESISTANT UNSHIELDED WALL MOUNTED 6"X6"X8" CUBE LED MOUNTED AT 6'-0" AFF. SUITABLE FOR WET LOCATIONS. | | | |
| | WP | LED 4000K | 80 | 277 | EXTERIOR WALL MOUNTED LED TYPE III DOWN LIGHT. SUITABLE FOR WET LOCATIONS. | | | |
| | EMR | LED | 100 | MVOLT | 2 LAMP, WET LOCATION, -40°F TO 131°F TEMPERATURE RATING, 12V, POLE, COLUMN, WALL,I-BEAM, OR UNISTRUT MOUNTING. MUST PROVIDE 90 MINUTES MINIMUM ILLUMINATION FOR RATED WATTAGE UPON LOSS OF AC POWER. INSTALL BETWEEN 12'-16' AFF. | | | |
| | 1 | | | | I . | | | |

1. EM - EMERGENCY LIGHT WITH BATTERY BACK UP.

3. VERIFY ALL LIGHT FIXTURE MOUNTING TYPES AND COLORS WITH ARCHITECT.

NL - UN-SWITCHED NIGHT LIGHT. 2. CONTRACTOR SHALL PROVIDE LIGHT FIXTURE SHIELDS AS REQUIRED TO PREVENT LIGHT TRESPASS OVER PROPERTY

AND/OR PARTICULAR EQUIPMENT MANUFACTURER'S SPECIFICATIONS.

CIRCUITRY TO SWITCHES, RECEPTACLES, AND ALL OTHER DEVICES SHALL BE TERMINATED ON THE DEVICE'S SCREW TERMINALS.

13. ALL WIRE TERMINATIONS SHALL BE RATED FOR 75 DEGREE C.

CONDUIT MAY BE USED ON VIBRATING EQUIPMENT.

AND UPON APPROVAL IN WRITING BY CONTRACTING OFFICER.

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501



∠CooverClark

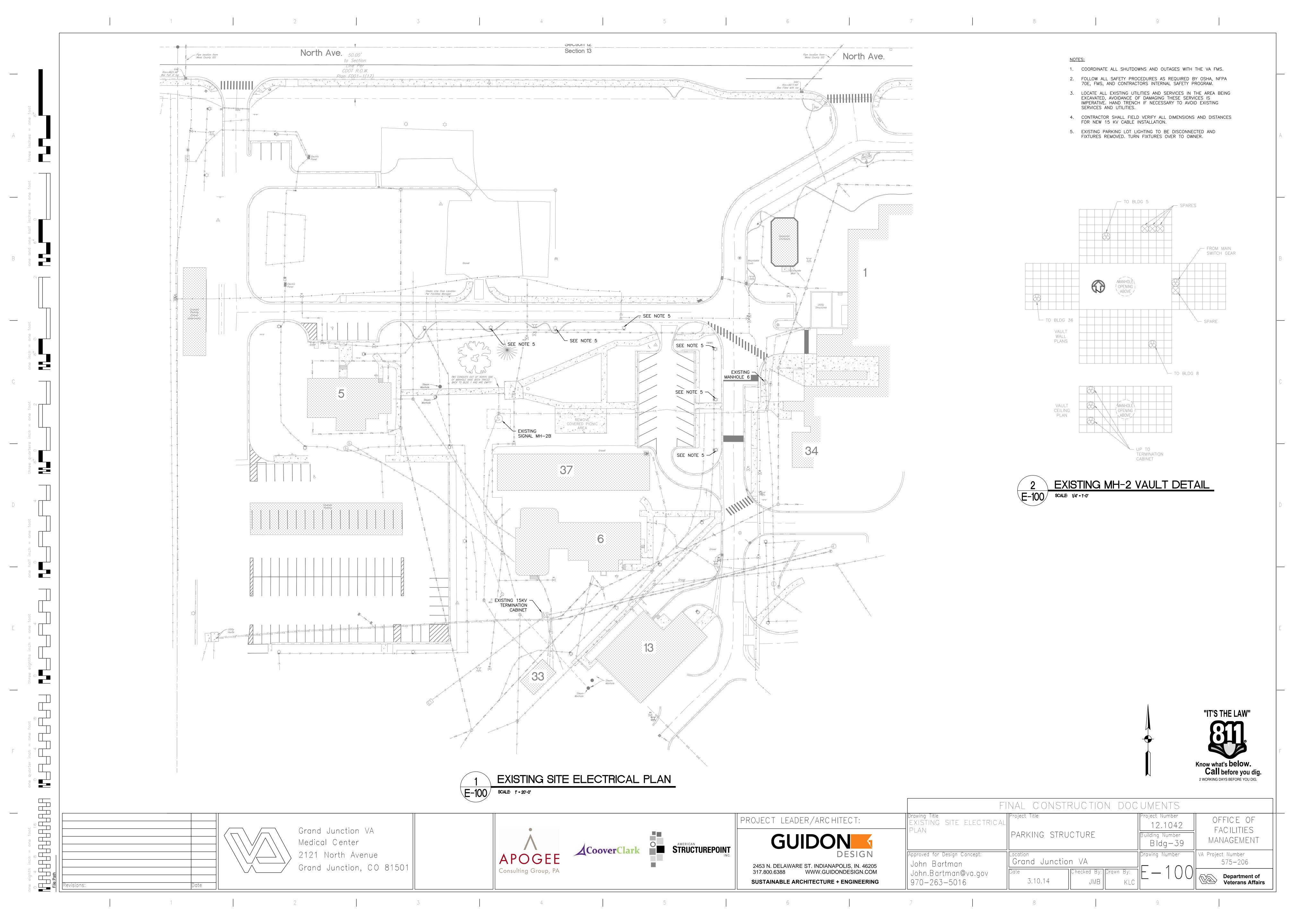


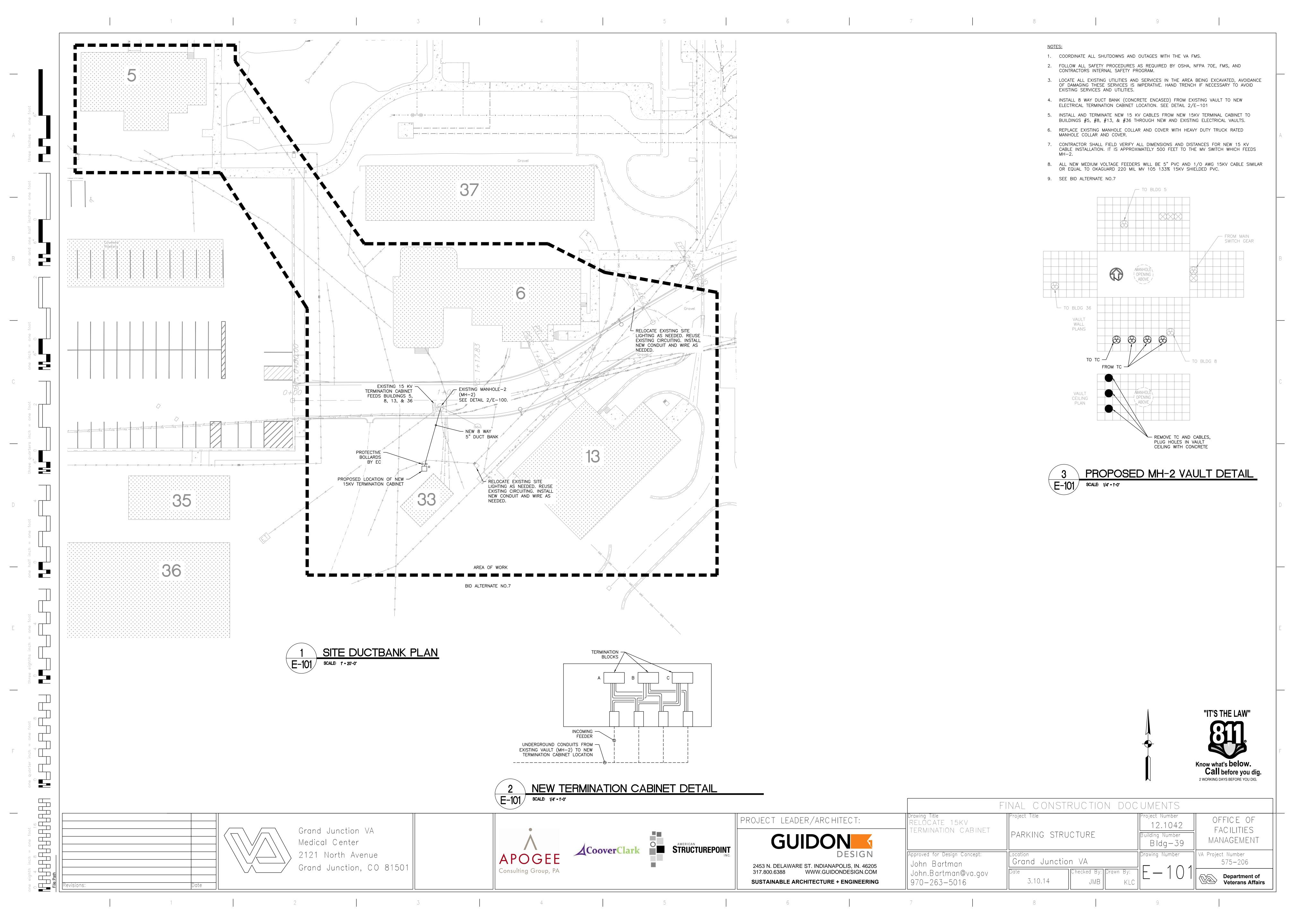


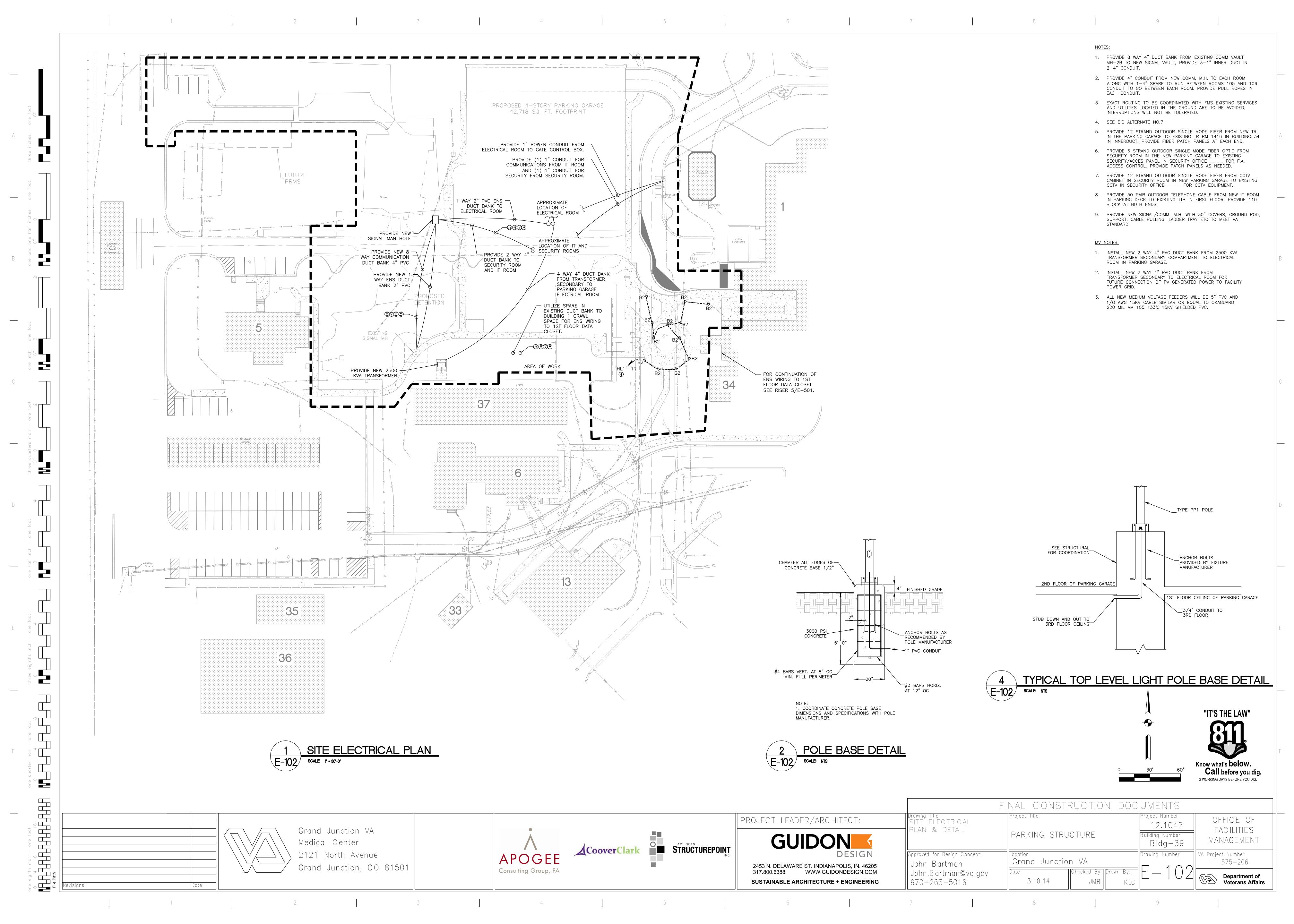
2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 WWW.GUIDONDESIGN.COM SUSTAINABLE ARCHITECTURE + ENGINEERING

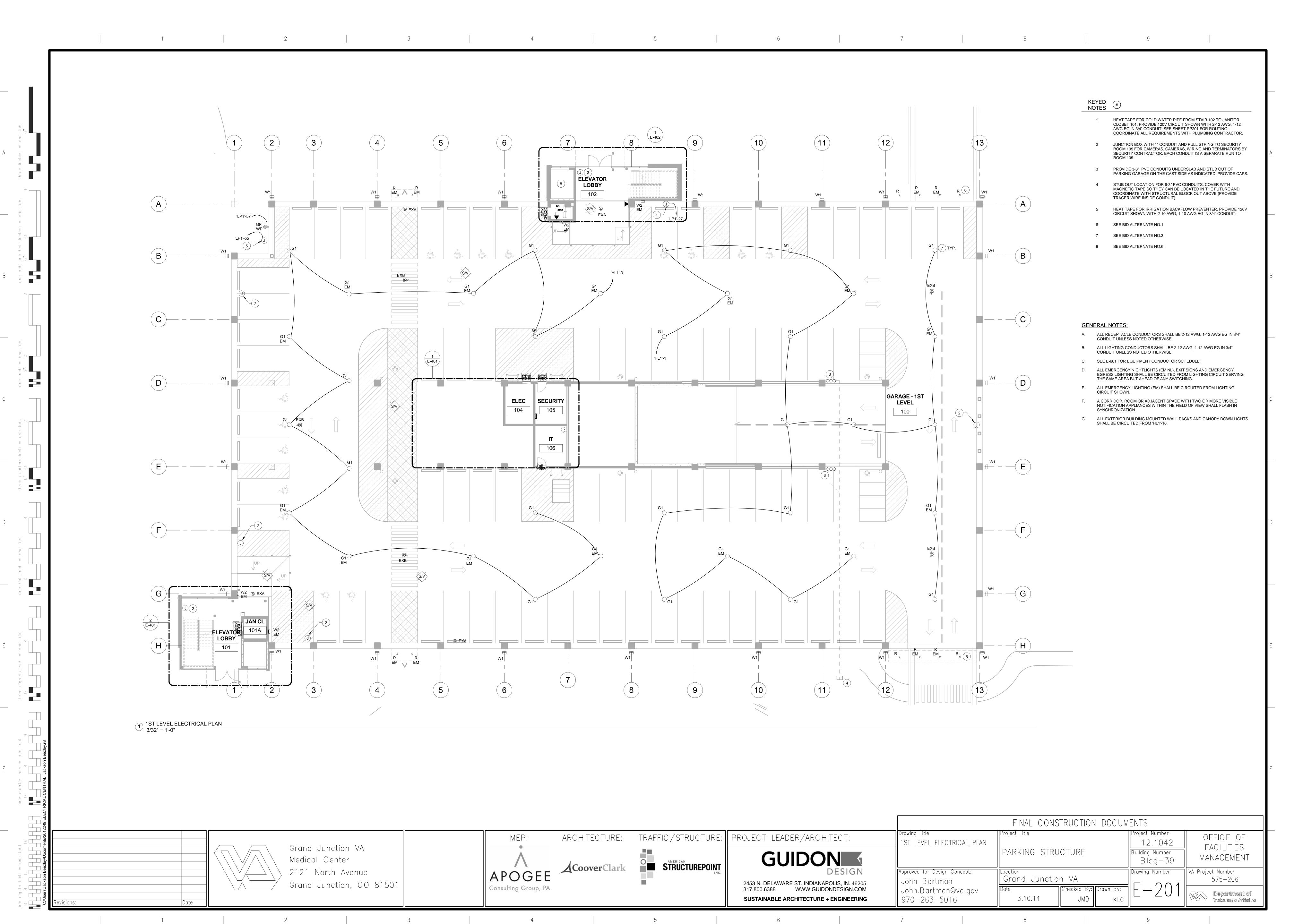
FINAL CONSTRUCTION DOCUMENTS Drawing Title ELECTRICAL NOTES AND LEGENDS PARKING STRUCTURE Approved for Design Concept: Grand Junction VA John Bartman John.Bartman@va.gov 970-263-5016 3.10.14

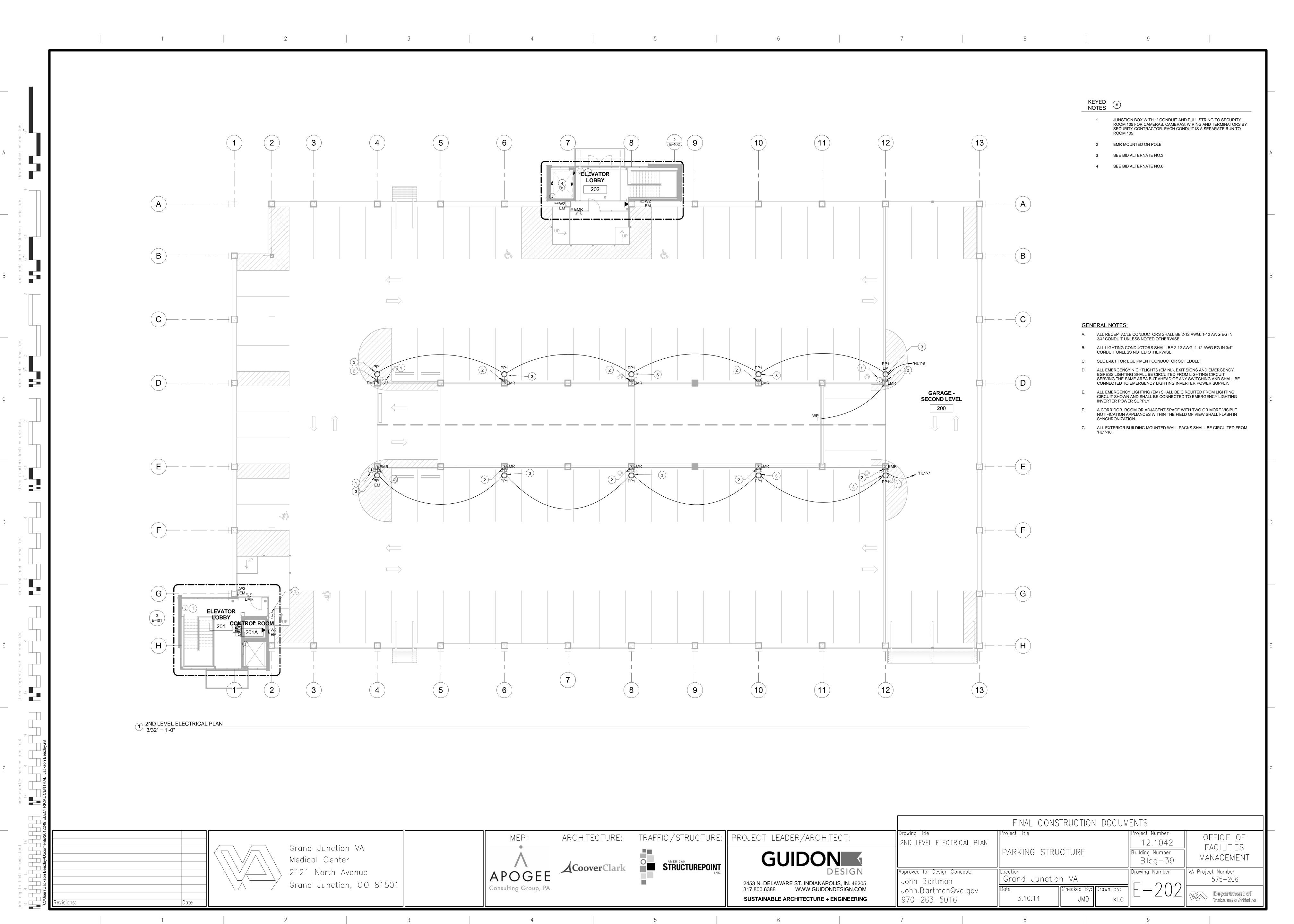
OFFICE OF 12.1042 FACILITIES Building Number MANAGEMENT Bldg-39 Drawing Number ∥ VA Project Number 575-206 Department of Veterans Affairs JMB

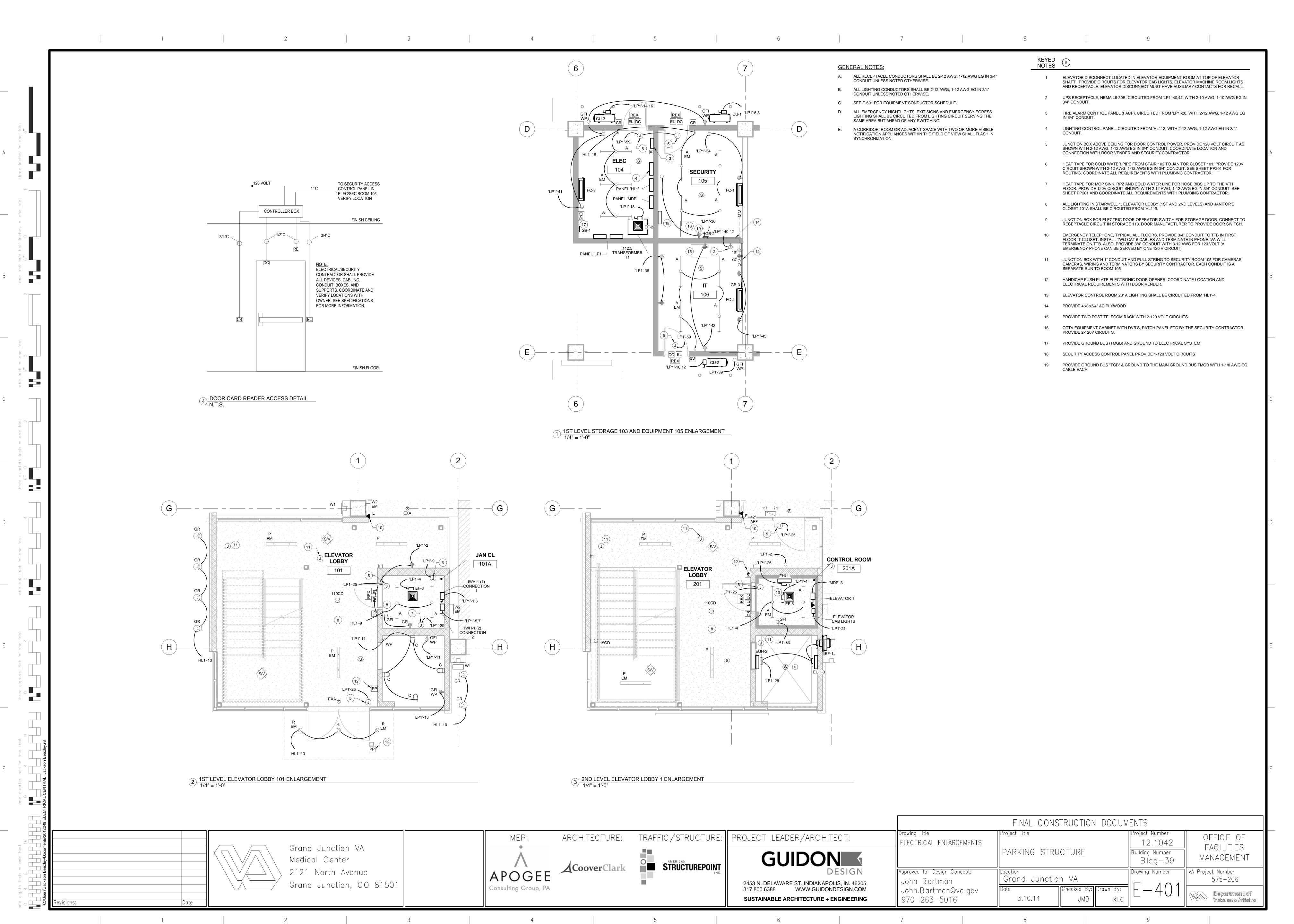


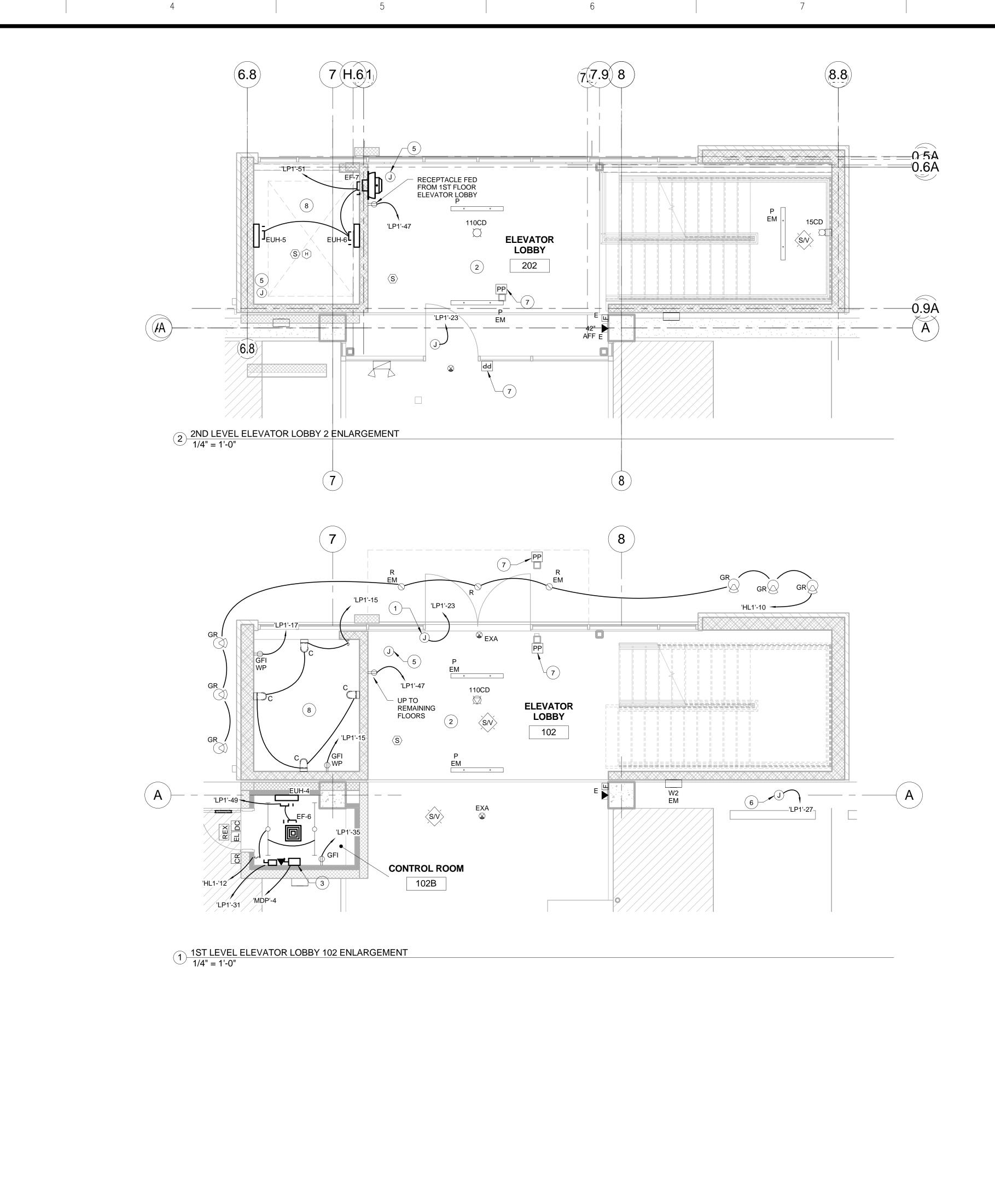












KEYED #

- JUNCTION BOX ABOVE CEILING FOR DOOR CONTROL POWER, PROVIDE 120 VOLT CIRCUIT AS SHOWN WITH 2-12 AWG, 1-12 AWG EG IN 3/4" CONDUIT. COORDINATE LOCATION AND CONNECTION WITH DOOR VENDER AND SECURITY CONTRACTOR.
- ALL LIGHTING IN STAIRWELL 2 (1ST THROUGH 2ND LEVELS) SHALL BE CIRCUITED FROM 'HL1'-8.
- ELEVATOR DISCONNECT LOCATED IN ELEVATOR EQUIPMENT ROOM AT TOP OF ELEVATOR SHAFT. PROVIDE CIRCUITS FOR ELEVATOR CAB LIGHTS, ELEVATOR MACHINE ROOM LIGHTS AND RECEPTACLE. ELEVATOR DISCONNECT MUST HAVE AUXILIARY CONTACTS FOR RECALL.
- EMERGENCY TELEPHONE, TYPICAL ALL FLOORS. PROVIDE 3/4" CONDUIT TO TTB IN FIRST FLOOR IT CLOSET. INSTALL TWO CAT5E OR CAT 6 CABLES AND TERMINATE IN PHONE. VA WILL
- JUNCTION BOX WITH 1" CONDUIT AND PULL STRING TO SECURITY ROOM 105 FOR CAMERAS. CAMERAS, WIRING AND TERMINATORS BY SECURITY CONTRACTOR. EACH CONDUIT IS A SEPARATE RUN TO ROOM 105
- HEAT TAPE FOR COLD WATER PIPE FROM STAIR 102 TO JANITOR CLOSET 101. PROVIDE 120V CIRCUIT SHOWN WITH 2-12 AWG, 1-12 AWG EG IN 3/4" CONDUIT. SEE SHEET PP201 FOR ROUTING. COORDINATE ALL REQUIREMENTS WITH PLUMBING CONTRACTOR.
- HANDICAP PUSH PLATE ELECTRONIC DOOR OPENER. COORDINATE LOCATION AND ELECTRICAL REQUIREMENTS WITH DOOR VENDER.
- 8 SEE BID ALTERNATE NO.6

GENERAL NOTES:

- ALL RECEPTACLE CONDUCTORS SHALL BE 2-12 AWG, 1-12 AWG EG IN 3/4" CONDUIT UNLESS NOTED OTHERWISE.
- ALL LIGHTING CONDUCTORS SHALL BE 2-12 AWG, 1-12 AWG EG IN 3/4" CONDUIT UNLESS NOTED OTHERWISE.
- SEE E-601 FOR EQUIPMENT CONDUCTOR SCHEDULE.
- ALL EMERGENCY NIGHTLIGHTS, EXIT SIGNS AND EMERGENCY EGRESS LIGHTING SHALL BE CIRCUITED FROM LIGHTING CIRCUIT SERVING THE SAME AREA BUT AHEAD OF ANY SWITCHING.
- E. A CORRIDOR, ROOM OR ADJACENT SPACE WITH TWO OR MORE VISIBLE NOTIFICATION APPLIANCES WITHIN THE FIELD OF VIEW SHALL FLASH IN SYNCHRONIZATION.

FINAL CONSTRUCTION DOCUMENTS

OFFICE OF

FACILITIES

MANAGEMENT

Department of Veterans Affairs

VA Project Number 575-206

Date

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501





ARCHITECTURE:

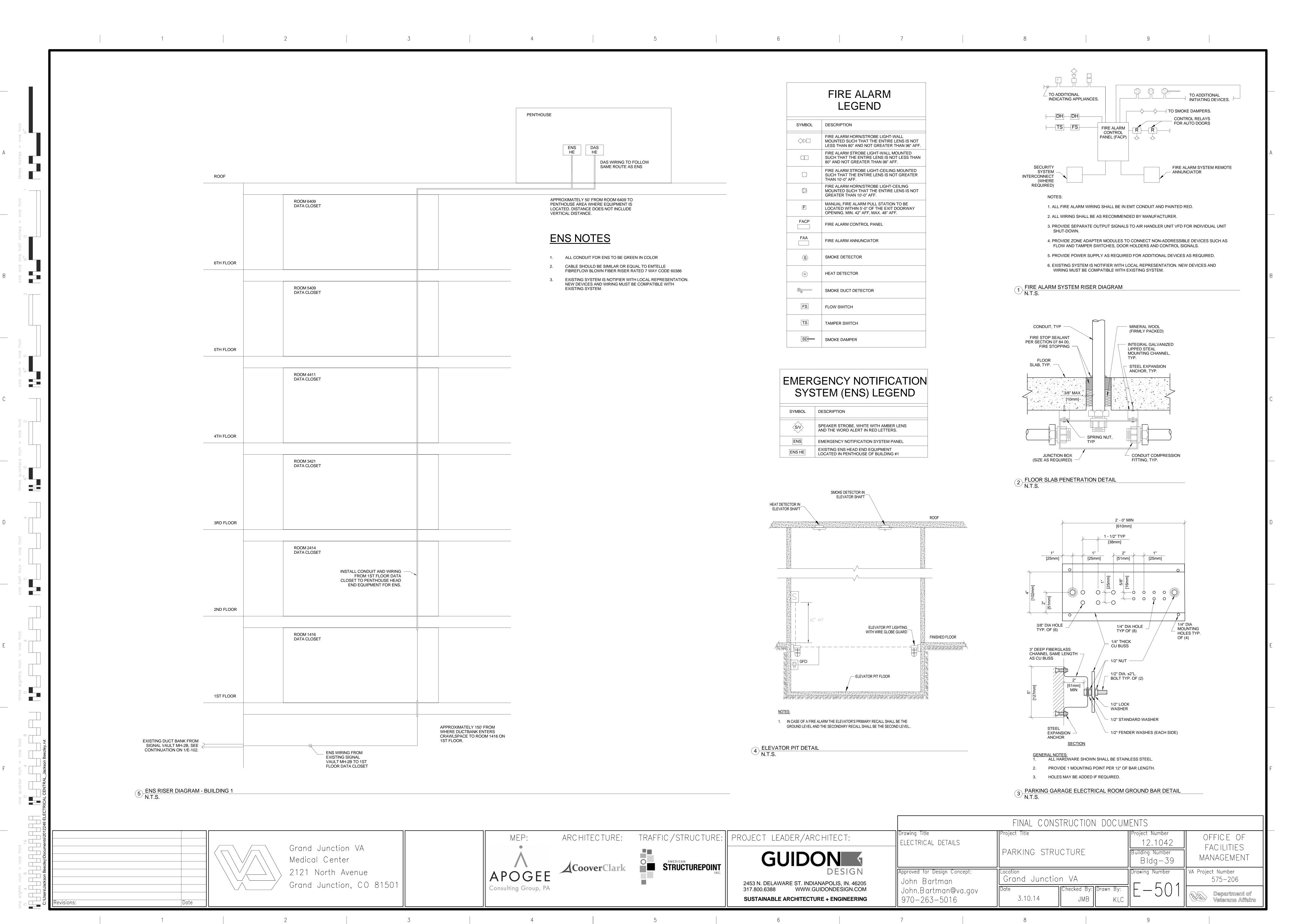


TRAFFIC/STRUCTURE: PROJECT LEADER/ARCHITECT:



SUSTAINABLE ARCHITECTURE + ENGINEERING

| Drawing Title | Project Title | | | Project Number |
|------------------------------|----------------|-------------|-----------|-----------------|
| ELECTRICAL ENLARGEMENTS | | | | 12.1042 |
| | PARKING STRU | CTURE | | Building Number |
| | | | | Bldg-39 |
| Approved for Design Concept: | Location | | | Drawing Number |
| John Bartman | Grand Junction | n VA | | |
| John.Bartman@va.gov | Date | Checked By: | Drawn By: | 1 + -4()' |
| 970-263-5016 | 3.10.14 | JMB | KLC | |



CONN. KVA LOAD SERVED NO. OF FEEDER SIZE SIZE SIZE POLES A B C PANEL 'LP1' 3P-100 PANEL 'HL1' 3.40 4.98 3.81 SEE SINGLE-LINE DIAGRAM EXTERIOR INTERIOR 225A MCB PANEL 'HL1' TRANSFORMER T1 TO PANEL 'LP1' 3P-110 18.75 15.20 15.08 SEE SINGLE-LINE DIAGRAM PANEL 'MDP' 100A MLO 120/208V 400A MCB TWO SECTION CONTROL 277/480V **ELEVATOR #1** 3P-80 SEE SINGLE-LINE DIAGRAM 16.00 | 16.00 | 16.00 277/480V PANEL 42 POLE 84 POLE ELEVATOR #2 3P-80 16.00 | 16.00 | 16.00 SEE SINGLE-LINE DIAGRAM THRU 1-8 AWG EG LUGS IN 1 1/2" EMT SPACE 0.00 0.00 0.00 SEE SINGLE-LINE DIAGRAM 1-1/4 CONDUIT WITH -80A 100A SPACE 0.00 0.00 0.00 ---SEE SINGLE-LINE DIAGRAM 4-4AWG 1-8 AWG EG TO 1. SEE BID ALTERNATE NO.6 **ELEVATOR #1** SPACE SEE SINGLE-LINE DIAGRAM 0.00 0.00 0.00 ---CONTROLS 80A SPACE 0.00 0.00 0.00 SEE SINGLE-LINE DIAGRAM ---1-1/4 CONDUIT WITH **→** 4-4AWG 1-8 AWG EG TO SPACE 0.00 0.00 SEE SINGLE-LINE DIAGRAM ---**ELEVATOR #2** G N SPACE 0.00 0.00 0.00 SEE SINGLE-LINE DIAGRAM CONTROLS ---400A ` 0.00 0.00 0.00 SEE SINGLE-LINE DIAGRAM 75 KVA 480V-208Y/120V SPACE 12 0.00 0.00 0.00 SEE SINGLE-LINE DIAGRAM ---AWG TRANSFORMER 54.15 52.17 50.88 1-6 AWG EG MBJ 3" CONDUIT WITH 4-4/0 IN 1-1/4" **TRANSFORMER** C/B TEMP. 75 C. <u>3</u> PH, <u>4</u> WIRE CONNECTED KVA DEMAND KVA NEC DEM kCMIL AND 1-2 AWG GEC CONDUIT LOAD TYPE 2500 KVA A B RATING (VOLTS) 277 / 480 **FACTOR** 13.2KV PRIM MOUNTING SURFACE 0.97 3.03 1.64 277/480V SEC GENERAL LIGHTING 3.78 2.05 – AWG GEC ISOLATED GROUND BUS NO <=10 KVA@100% 1.62 GENERAL USE MAIN CIRCUIT BREAKER YES RECEPT 2.16 1.62 0.00 SERVICE ENTR. RATED YES MOTORS AND 16.00 2 AWG GEC EQUIPMENT MINIMUM AIC (K AMPS) <u>65</u> BOND TO COLD WATER MCB RATING 400A **EXTERIOR LIGHTING** PIPE, CONCRETE BOND TO COLD 2-3" CONDUIT **ENCASED FOUNDATION** WATER PIPE AND BUS RATING 400A WATER HEATERS 9.00 4.50 4.50 EACH WITH 4-250 STEEL, AND DRIVEN CONCRETE NEUTRAL RATING 100% DEDICATED RECEPT 1.20 2.40 3.40 1.20 2.40 3.40 GROUND ROD **ENCASED FOUNDATION STEEL** 1.13 2.18 0.00 1.13 2.18 0.00 FIX. ELECT. SPACE HEAT 100% SINGLE-LINE DIAGRAM KVA / Phase LOAD SERVED CKT | NEUTRAL | CKT | LOAD SERVED NOTE: ALL MOTOR CIRCUIT BREAKERS MUST BE АВ NO ABC HACR RATED. TOTAL KVA PER PHASE 52.33 50.60 50.54 58.97 56.65 56.55 1ST LEVEL GARAGE LIGHTING 1P-20 0.20 --- LIGHTING CONTROL PANEL ---TOTAL DEMAND AMPERES PER PHASE 213 205 204 1ST LEVEL GARAGE LIGHTING --- 0.66 --- ELEVATOR 1 CNTRL ROOM 201A LTS PANEL / FEEDER (TOTAL KVA) 0.66 LTS 1ST LEVEL ELEC,SEC, IT 2ND LEVEL GARAGE LIGHTING --- 1.91 1P-20 2ND LEVEL GARAGE LIGHTING 1.83 ---1P-20 8 1P-20 0.77 --- LTS STAIRWELL 2 (TOTAL KVA) X 1000 = TOTAL AMPS PANEL 'MDP' LTS STAIRWELL 1, JAN 101A 207 --- 1.57 VOLTS X 1.732 1P-20 --- EXTERIOR BLG MTD & CANOPY LTS **EXTERIOR COURTYARD LTS** --- 0.34 1P-20 1P-20 0.90 | ELEVATOR 2 CNTRL ROOM 102B LTS ---SPACE 0.00 0.00 --SPACE 0.00 --- SPACE SPACE --- 0.00 0.00 SPACE LOAD SERVED LOAD SERVED SPACE 0.00 --- SPACE 0.00 SPACE --- 0.00 --- SPACE 0.00 1P-20 | 0.72 | --- | STOR RMS 101, 201 RECPTS INSTANTANEOUS WATER HEATER SPACE --- 0.00 0.00 SPACE IWH-1 (1) CONNECTION 1 --- | 0.16 | --- | EF-3, 5 4.50 1P-20 SPACE 0.00 SPACE --- 0.00 0.00 INSTANTANEOUS WATER HEATER 0.00 SPACE SPACE --- 0.00 -- | --- | --- | IWH-1 (2) CONNECTION 2 0.00 10 2P-15 --- 1.08 --- CU-2 AND FC-2 HEAT TAPE COLD WTR PIPE 0.70 0.00 _--- 1.08 --- 0.26 1P-20 ELEVATOR PIT 1 LTS & RECEPT 0.00 SPACE ELEVATOR 1 SUMP PUMP 1P-20 CU-3 AND FC-3 0.00 --- 1.08 ---ELEVATOR PIT 2 LTS & RECEPT --- 0.26 1P-20 --- SPACE --- 0.00 ELEVATOR 2 SUMP PUMP 18 1P-20 --- 0.04 EF-2 --- | --- | 1.20 1P-20 17 --- 0.00 0.00 SPACE 1P-20 19 20 1P-20 0.20 --- FACP **SUB TOTAL** 2.43 2.23 2.25 0.97 | 2.75 | 1.56 | SUB TOTAL --- | 0.20 | --- | CARD READERS **ELEVATOR 1 CAB LIGHTS** --- 0.20 1P-20 3.40 4.98 3.81 TOTAL DOOR OPENER POWER 2 0.60 --- 0.50 CAMERA POWER C/B TEMP. 75 C. CONNECTED KVA DEMAND KVA 277 480 V<u>3</u> PH<u>4</u> WIRE LOAD TYPE DOOR OPENER POWER 1 1P-20 25 1P-20 0.50 --- ---MOUNTING SURFACE FACTOR HEAT TAPE COLD WTR PIPE --- 1.09 --- EUH-2, EUH-3 & EF-1 --- 1.00 1P-20 0.77 2.75 **ISOLATED GROUND BUS** GENERAL LIGHTING YES X NO MAIN CIRCUIT BREAKER 1.50 AMBULANCE GATE CONTROLLER <=10 KVA@100% HEAT TAPE - SINK & RPZ --- 0.50 **GENERAL USE** 0.00 0.00 SERVICE ENTR. RATED X NO RECEPT ELEVATOR 2 CAB LIGHTS 1P-20 EMERGENCY NOTIFICATION PANEL MINIMUM AIC (K AMPS) 42 MOTORS AND ELEV. CNTRL RM 201A DED GFI --- 0.18 1P-20 33 --- 0.36 --- SECURITY ROOM RECEPTACLES MCB RATING MLO **EQUIPMENT** 0.20 0.00 ALL OTHERS 0.00 100% 0.00 ELEV. CNTRL RM 102B DED GFI --- 0.18 1P-20 35 --- 0.36 SECURITY ROOM RECEPTACLES BUS RATING 100A **EXTERIOR LIGHTING** 38 1P-20 0.72 --- IT ROOM 106 RECEPTACLES 1P-20 37 NEUTRAL RATING 100% 2P-30 --- 2.20 ---EXTERIOR RECEPT --- 0.18 ---1P-20 39 --- 2.20 ELEC RM 104 RECEPTACLES --- 0.72 1P-20 41 NOTE: ALL MOTOR CIRCUIT BREAKERS MUST BE HACR RATED. TOTAL KVA PER PHASE | 1.58 | 3.41 | 3.47 1.92 | 4.26 | 4.33 7 15 16 TOTAL DEMAND AMPERES PER PHASE IT ROOM 106 RECEPTACLES 0.72 --- 1P-20 43 PANEL / FEEDER (TOTAL KVA) --- 0.72 IT ROOM 106 RECEPTACLES 1P-20 0.00 RECPTS RMS 102, 202 --- 0.36 0.00 SPACE (TOTAL KVA) X 1000 = TOTAL AMPSPANEL 'HL1' EHU-4, EF-6 0.00 VOLTS X 1.732 EUH-5,EUH-6, & EF-7 --- 1.09 ---1P-20 51 --- 0.00 --- SPACE --- 0.00 --- 0.00 SPACE **EQUIPMENT CONDUCTOR SCHEDULE** BACKFLOW PRVNTR HEAT TAPE 1.00 1P-20 55 DESCRIPTION MOCP | CONDUCTORS | NEUTRAL | GROUND | CONDUIT | **DISCONNECT TYPE** VOLTS | PHASE | LOAD DED RECEPT BFP HOT BOX --- 0.20 --- SPACE 0.00 --- 0.00 0.00 SPACE INSTANTANEOUS 208 8 AWG 3/4" 60A NEMA 1 9 KW 2P-40 --- SPACE 0.00 WATER HEATER --- 0.00 --- 0.00 --- SPACE 0.00 SPACE INSTANTANEOUS SPACE 0.00 --- SPACE 208 8 AWG 3/4" 60A NEMA 1 9 KW 2P-40 | 2 | 8 AWG WATER HEATER --- 0.00 --- SPACE 0.00 --- 0.00 0.00 SPACE **HEAT TAPE** 10 AWG 10 AWG 10 AWG ---SPACE 0.00 --- SPACE 0.00 **ELEVATOR** 480 8 AWG 100A NEMA 1 4 AWG --- 0.00 0.00 **--** 75 CAR CHARGING STATION 208 8 AWG 10 AWG 3/4" 2P-40 ---SPACE --- 0.00 0.00 SPACE MOTOR RATED SWITCH EXHAUST FAN 3/4" 12 AWG SPACE 0.00 0.00 --- SPACE EF-2 **EXHAUST FAN** 3/4" MOTOR RATED SWITCH --- 0.00 ---EF-3 EXHAUST FAN MOTOR RATED SWITCH 115 12 AWG 12 AWG 12 AWG 3/4" --- 0.00 --- 0.00 SPACE EF-4 **EXHAUST FAN** 12 AWG MOTOR RATED SWITCH 4.80 6.17 6.76 SUB TOTAL SUB TOTAL 13.95 9.03 8.32 EXHAUST FAN 12 AWG MOTOR RATED SWITCH 1P-20 12 AWG 18.75 | 15.20 | 15.08 | TOTAL EF-6 EXHAUST FAN 115 1P-20 12 AWG 12 AWG 3/4" MOTOR RATED SWITCH 12 AWG 120 208 V <u>3</u> PH <u>4</u> WIRE DEMAND KVA C/B TEMP. 75 C. RATING CONNECTED KVA NEC DEM EF-7 EXHAUST FAN 3/4" MOTOR RATED SWITCH 1/30 HP 1P-20 12 AWG LOAD TYPE 12 AWG 12 AWG MOUNTING SURFACE FACTOR **CONDENSING UNIT** 208 13 MCA 12 AWG 12 AWG 3/4" 30A NEMA 1 ---YES X NO ISOLATED GROUND BUS GENERAL LIGHTING 0.20 0.28 FAN COIL UNIT POWERED X YES MAIN CIRCUIT BREAKER 12 AWG FROM CU-1 YES X NO SERVICE ENTR. RATED RECEPT MINIMUM AIC (K AMPS) 10 **CONDENSING UNIT** 30A NEMA 1 MOTORS AND 1 13 MCA 12 AWG 3/4" MCB RATING 225A **EQUIPMENT** FAN COIL UNIT POWERED 12 AWG BUS RATING 225A WATER HEATERS FROM CU-2 NEUTRAL RATING 100% **DEDICATED RECEPT** 1.20 2.40 3.40 1.20 2.40 3.40 **CONDENSING UNIT** 1 13 MCA 12 AWG 30A NEMA 1 3/4" ---FIX ELEC. SPACE HEAT 1.13 2.18 0.00 100% 1.13 | 2.18 | 0.00 FAN COIL UNIT POWERED 12 AWG FROM CU-3 NOTE: ALL MOTOR CIRCUIT BREAKERS MUST BE HACR RATED. TOTAL KVA PER PHASE | 18.75 | 15.20 | 15.08 21.05 | 16.39 | 16.22 TOTAL DEMAND AMPERES PER PHASE 175 137 135 MOTOR RATED SWITCH UNIT HEATER 500 W 1P-20 1 1 10 AWG 10 AWG 10 AWG MOTOR RATED SWITCH EUH-2 **UNIT HEATER** PANEL / FEEDER (TOTAL KVA) EUH-3 **UNIT HEATER** MOTOR RATED SWITCH MOTOR RATED SWITCH EUH-4 **UNIT HEATER** (TOTAL KVA) X 1000 = TOTAL AMPS VOLTS X 1.732 PANEL 'LP1' MOTOR RATED SWITCH EHU-5 **UNIT HEATER** EHU-6 **UNIT HEATER** 500 W 1P-20 10 AWG 10 AWG 10 AWG 3/4" MOTOR RATED SWITCH FINAL CONSTRUCTION DOCUMENTS Drawing Title Project Title OFFICE OF ARCHITECTURE: TRAFFIC/STRUCTURE: PROJECT LEADER/ARCHITECT: MEP: 12.1042 SINGLE-LINE DIAGRAM, PANEL FACILITIES Grand Junction VA AND EQUIPMENT SCHEDULES Building Number STRUCTUREPOINT PARKING STRUCTURE MANAGEMENT Medical Center Bldg-39 **∠**CooverClark Approved for Design Concept: DESIGN Drawing Number 2121 North Avenue **∏** VA Project Number Grand Junction VA 575-206 John Bartman Grand Junction, CO 81501 2453 N. DELAWARE ST. INDIANAPOLIS, IN. 46205 Consulting Group, PA John.Bartman@va.gov WWW.GUIDONDESIGN.COM

SUSTAINABLE ARCHITECTURE + ENGINEERING

Department of Veterans Affairs

3.10.14

JMB

970-263-5016

three quarters inch = o

e half inch = one foot

s inch = one foot

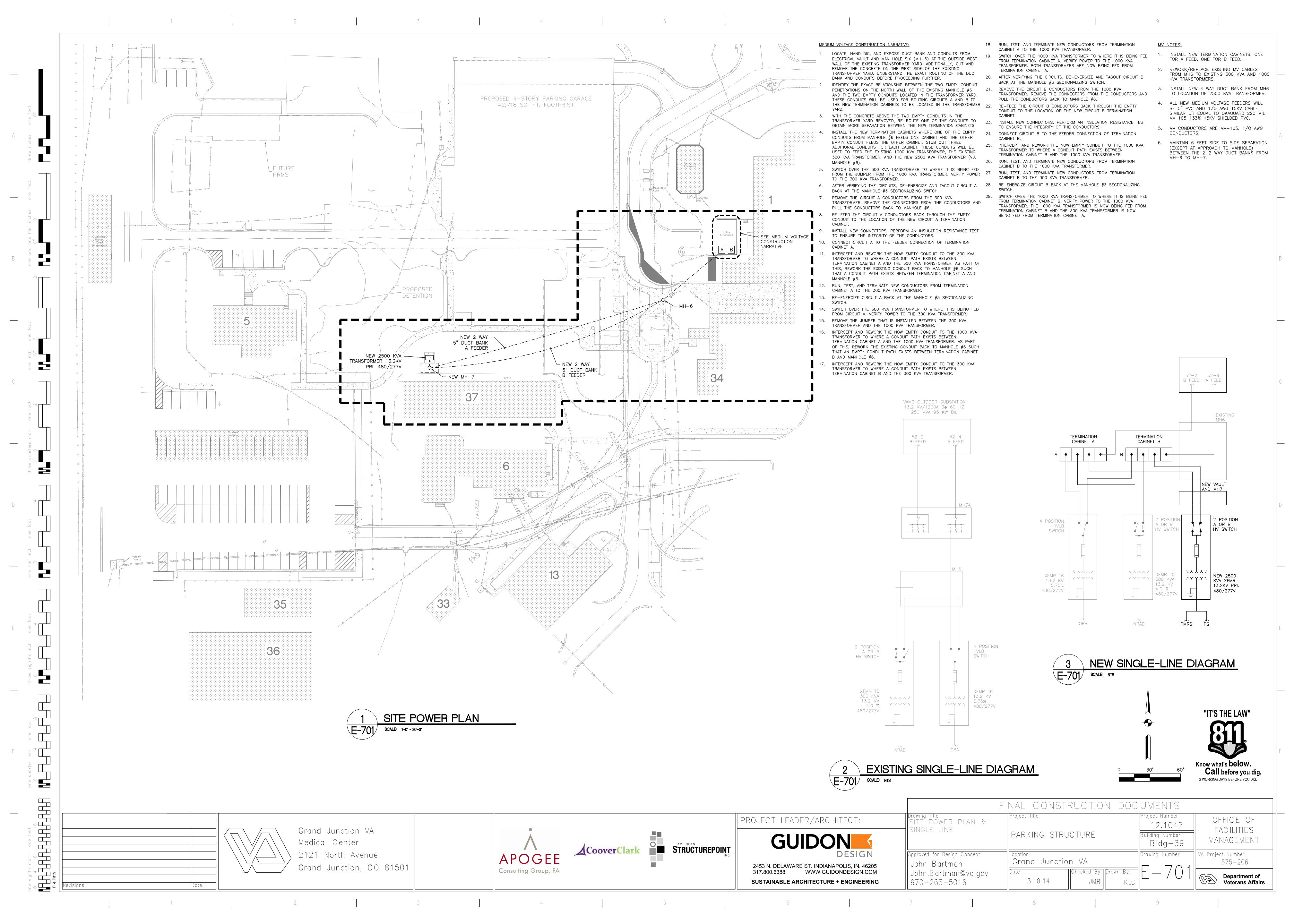
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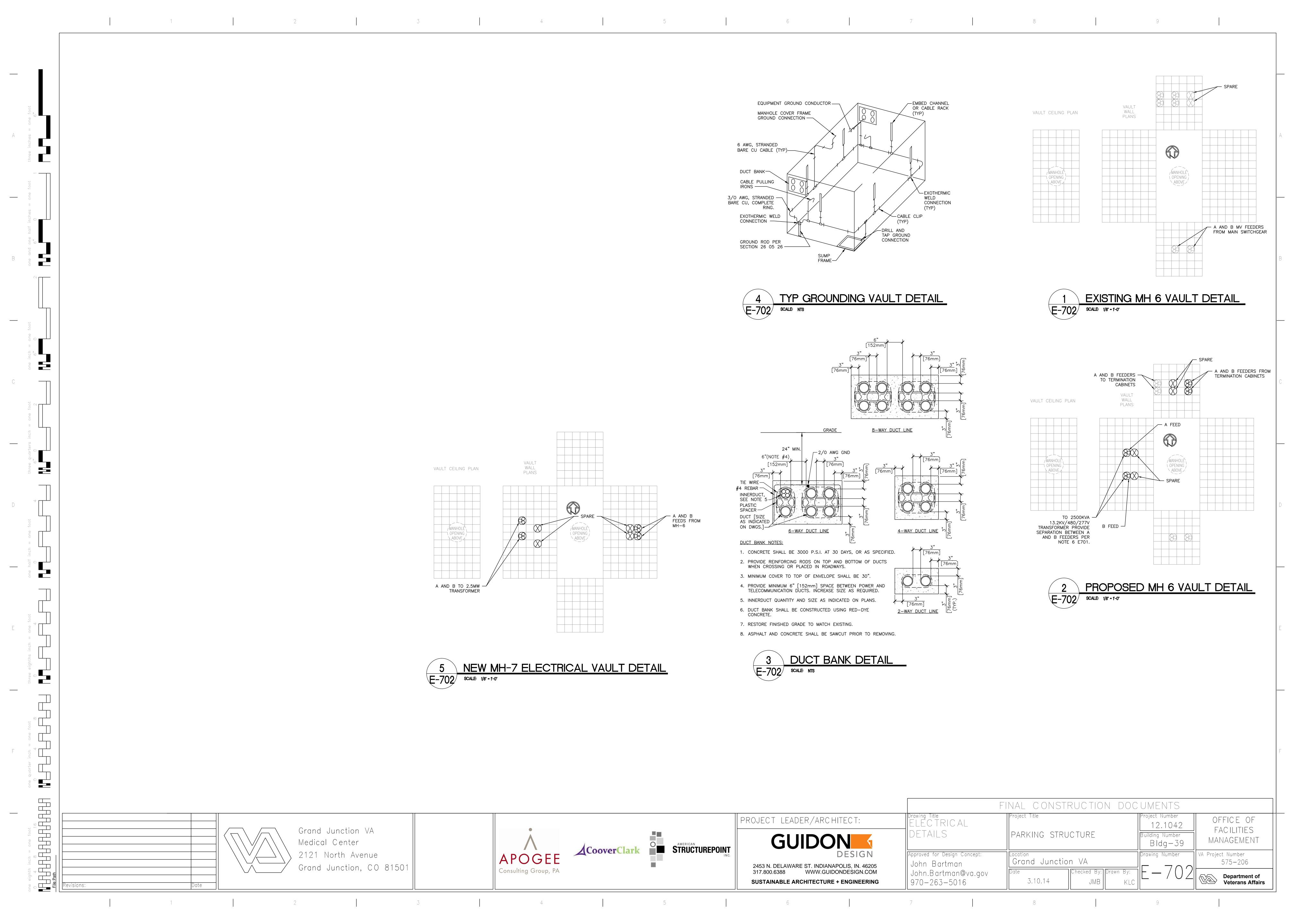
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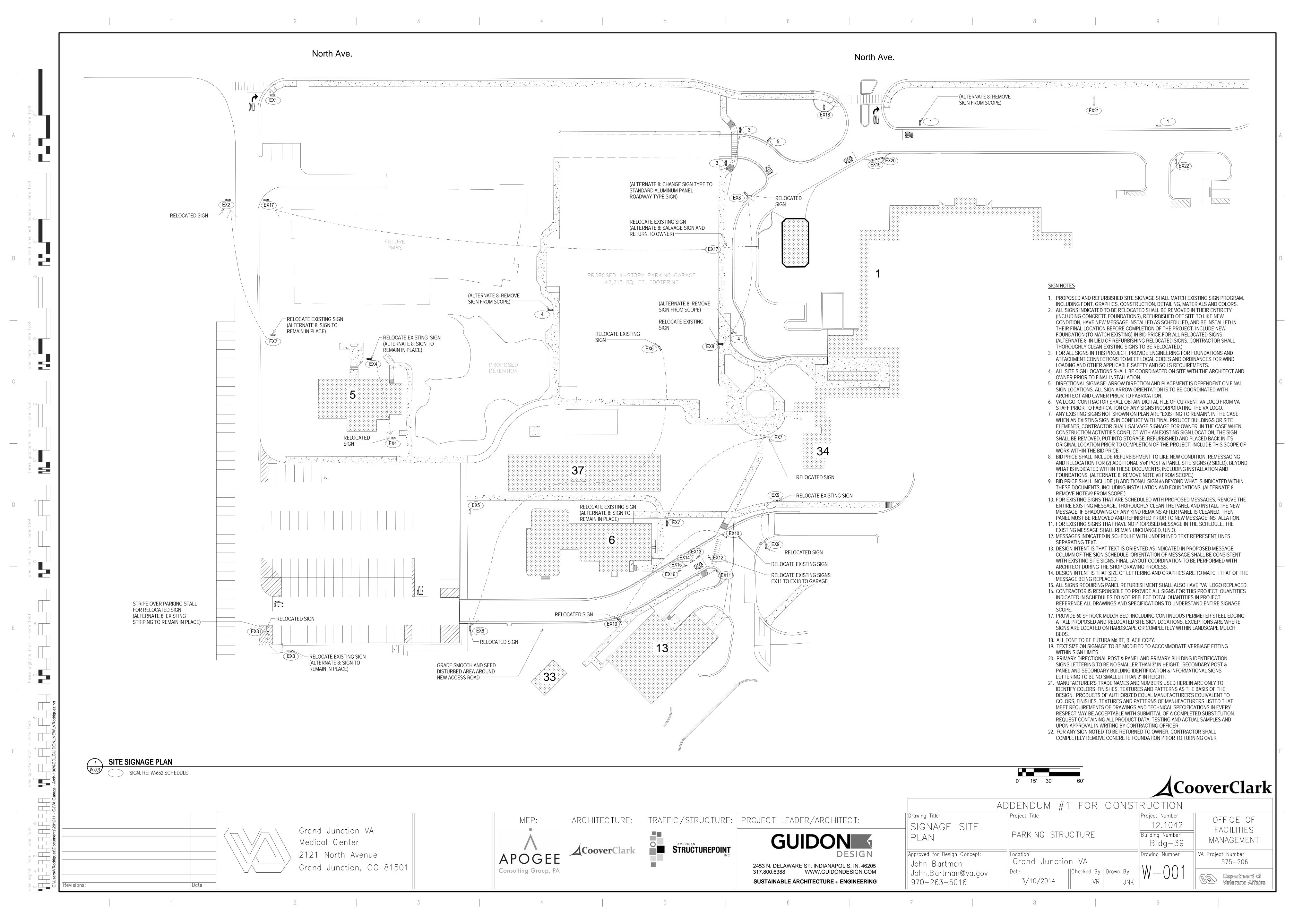
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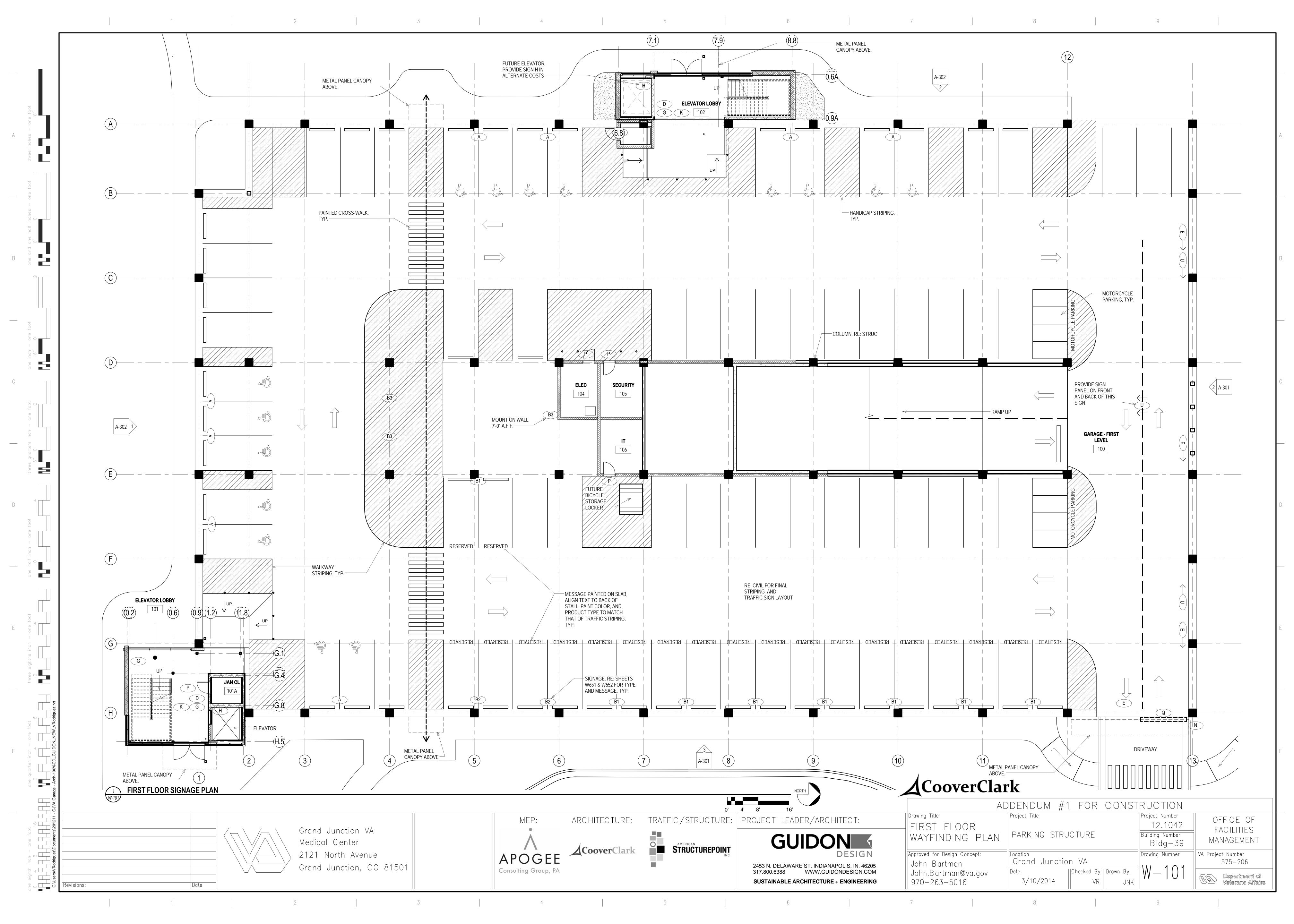
= one foot one quarter 16 0

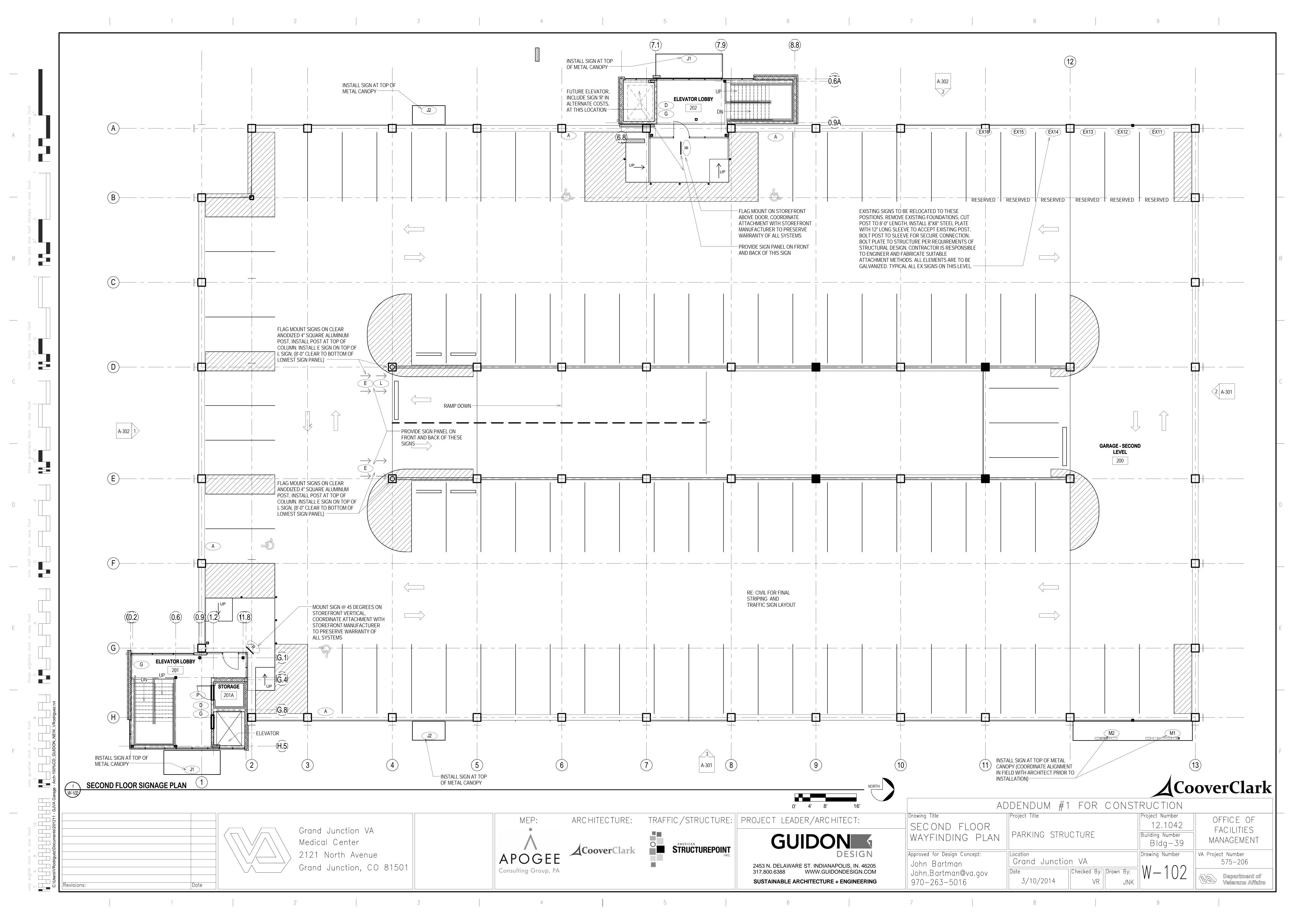
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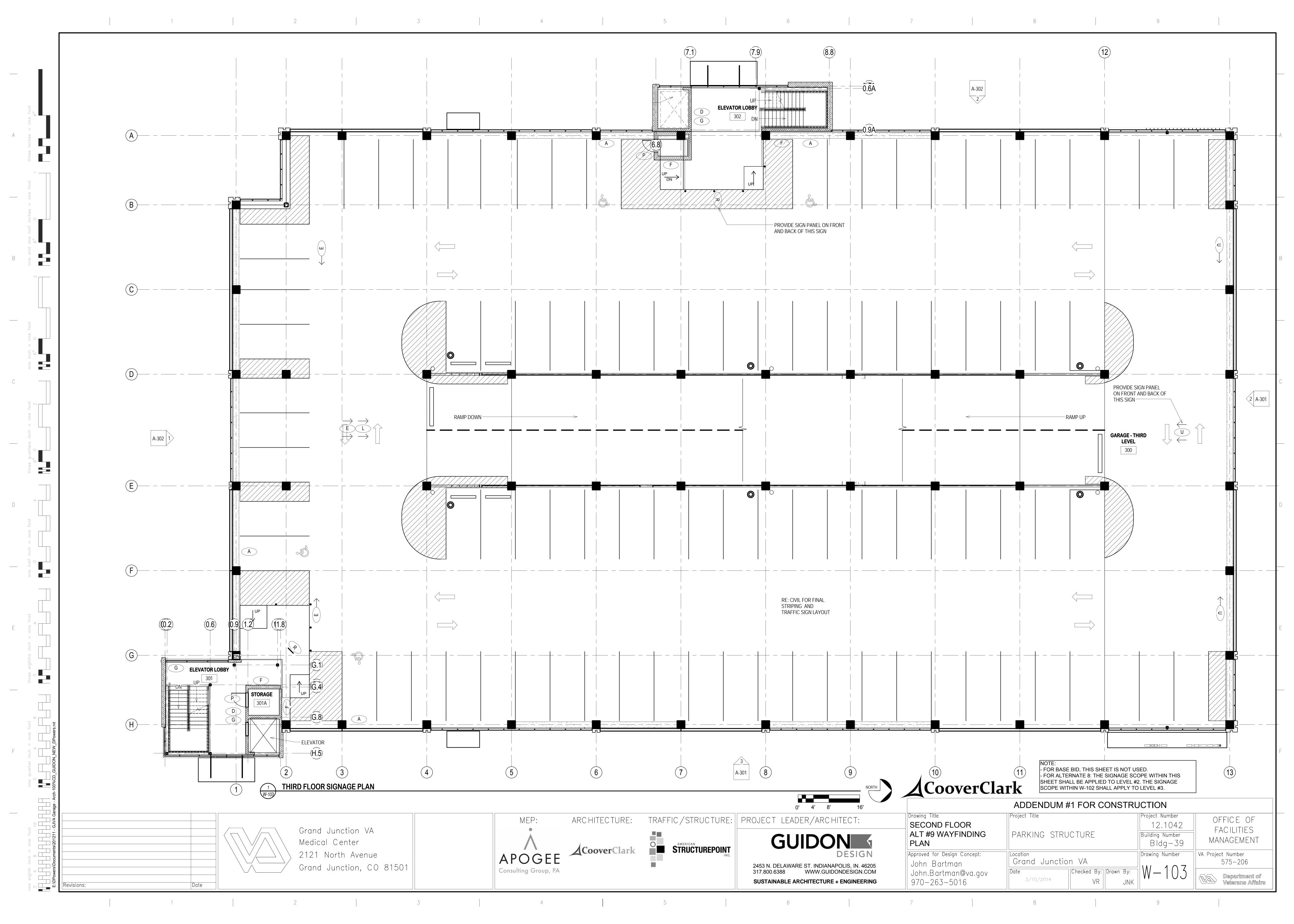


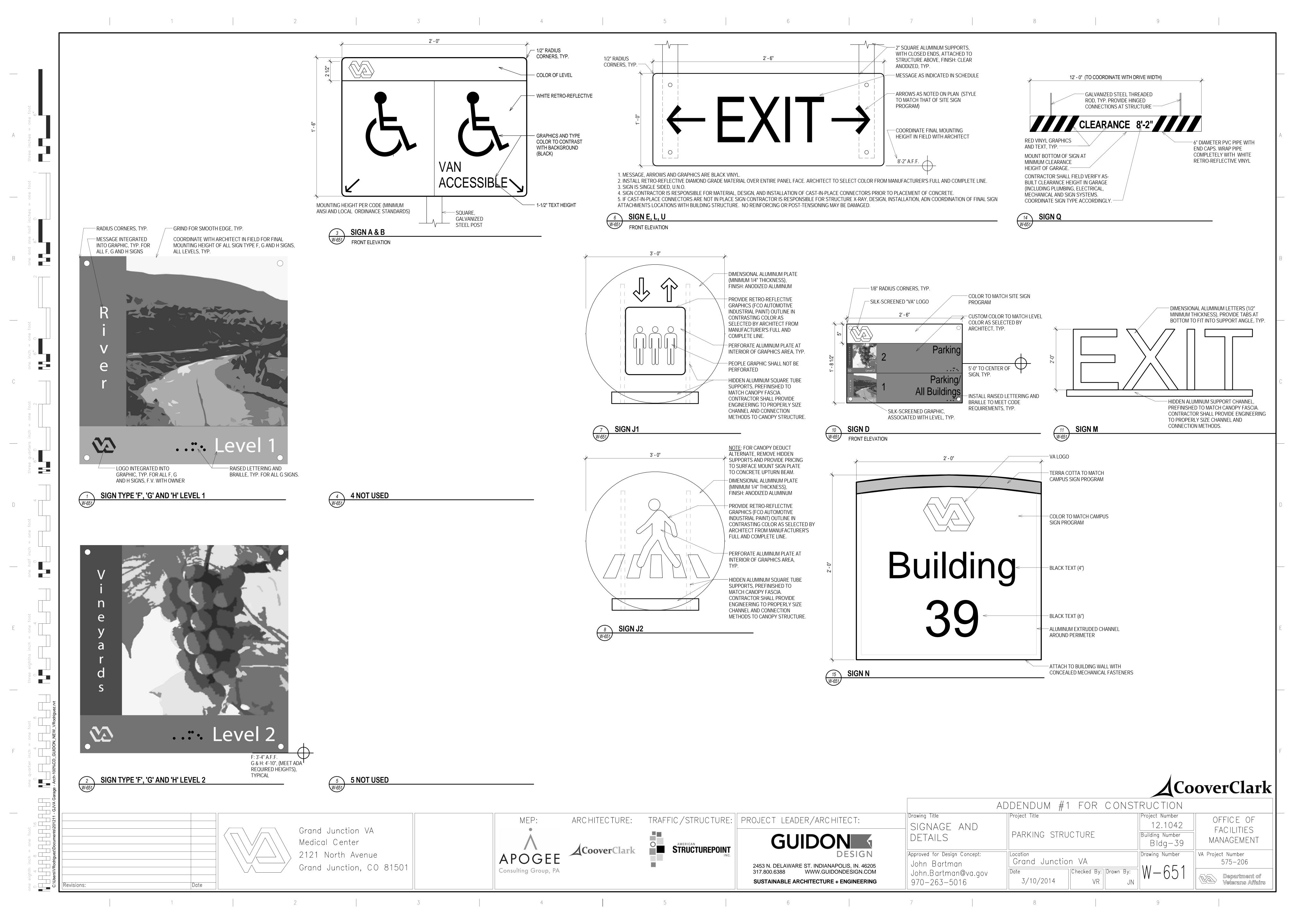












| | GNAGE SCHEDULE | <u> </u> | | | |
|------------------------|---|--|--|--------------|--|
| SIGN TYPE | PROPOSED MESSAGE | GRAPHICS / SYMBOLS | MATERIAL | DETAIL | NOTES |
| EX1 (SIDE A) | Medical Center <u>Grand Junction, CO</u> *Northwest Entrance* (Truck & Delivery Entrance) | - | ALUM. POST & PANEL | - | - EXISTING SIGN TO REMAIN IN PLACE CLEAN POST & PANEL THOROUGHLY SIDE "B": EXISTING MESSAGE TO REMAIN (ALTERNATE 8: EXISTING SIGN TO REMAIN AS-IS) |
| EX2 (SIDE A) | Receiving Warehouse | ARROW | ALUM. POST & PANEL | - | - LOCATE IN FIELD WITH ARCHITECT. |
| EX2 (SIDE B) | Exit to North Avenue | ARROW | ALUM. POST & PANEL | - | - LOCATE IN FIELD WITH ARCHITECT. |
| EX3 (SIDE A) | Receiving Warehouse No Trucks Beyond This Point | - ARROW - DO NOT ENTER SYMBOL (RED) | ALUM. POST & PANEL | - | - EXISTING SIGN TO BE RELOCATED CLEAN POST & PANEL THOROUGHLY REMOVE PAVING AS NEEDED FOR FOUNDATION INSTALLATION (ALTERNATE 8: EXISTING SIGN TO REMAIN AS-IS) |
| EX3 (SIDE B) | - | - | ALUM. POST & PANEL | - | - EXISTING SIGN TO BE RELOCATED CLEAN POST & PANEL THOROUGHLY EXISTING MESSAGE TO REMAIN. |
| EX4 (BOTH SIDES) | - | - | ALUM. POST & PANEL | - | - EXISTING SIGN TO BE RELOCATED. (ALTERNATE 8 : EXISTING SIGN TO REMAIN AS-IS) - EXISTING MESSAGE TO REMAIN. |
| EX5 (BOTH SIDES) | - | - | ALUM. POST & PANEL | - | - EXISTING SIGN TO REMAIN - NO CHANGE. |
| EX6 (SIDE A) | Receiving Warehouse Access | - ARROW | ALUM. POST & PANEL | - | - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH ARCHITECT) REFURBISH POST & PANEL TO LIKE NEW CONDITION SIDE "B": REMOVE MESSAGE FOR A BLANK PANEL. |
| EX7 (SIDE A) | - | - ARROW | ALUM. POST & PANEL | - | - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH ARCHITECT) REFURBISH POST & PANEL TO LIKE NEW CONDITION, EXIST MESSAGE TO REMAIN. |
| EX7 (SIDE B) | Main Hospital | - ARROW | ALUM. POST & PANEL | - | - (ALTERNATE 8: EXISTING SIGN TO REMAIN AS-IS) - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH ARCHITECT). - REMOVE TEXT ON LOWER BARS, REFURBISH POST & PANEL TO LIKE NEW CONDITION. |
| EX8 (SIDE A) | DO NOT ENTER Ambulance Only | - DO NOT ENTER SYMBOL (RED) | ALUM. POST & PANEL | - | - (ALTERNATE 8: EXISTING SIGN TO REMAIN AS-IS) - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH ARCHITECT). - REFURBISH POST & PANEL TO LIKE NEW CONDITION. |
| EX9 (SIDE A) | - | - ARROW (X2) | ALUM. POST & PANEL | - | - SIDE "B": REMOVE MESSAGE FOR A BLANK PANEL. - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH ARCHITECT). - CLEAN POST & PANEL THOROUGHLY. |
| EX9 (SIDE B) | Exit To North Avenue | - ARROW | ALUM. POST & PANEL | - | - REORIENT ARROWS DUE TO RELOCATION OF SIGN. - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH ARCHITECT). - CLEAN POST & PANEL THOROUGHLY. |
| EX10 (SIDE A) | - | - | ALUM. POST & PANEL | - | - REORIENT ARROW DUE TO RELOCATION OF SIGN. - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH OWNER). - CLEAN POST & PANEL THOROUGHLY. |
| EX10 (SIDE B) | - | - | ALUM. POST & PANEL | - | - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH OWNER) CLEAN POST & PANEL THOROUGHLY. |
| EX11 EX12 | - | - | ALUM. PANEL ALUM. PANEL | - | - EXISTING SIGN TO BE RELOCATED TO GARAGE, RE: W-102 EXISTING SIGN TO BE RELOCATED TO GARAGE, RE: W-102. |
| EX13 | - | - | ALUM. PANEL | - | - EXISTING SIGN TO BE RELOCATED TO GARAGE, RE: W-102. |
| EX14 | - | - | ALUM. PANEL | - | - EXISTING SIGN TO BE RELOCATED TO GARAGE, RE: W-102. |
| EX15 | - | - | ALUM PANEL | - | - EXISTING SIGN TO BE RELOCATED TO GARAGE, RE: W-102. |
| EX16 | - Postricted Clearance | - ADDOW (V2) | ALUM CARINET ON | - | - EXISTING SIGN TO BE RELOCATED TO GARAGE, RE: W-102. |
| EX17 (SIDE A) | Restricted Clearance Overflow Parking Physical Medicine Rehabilitation Services Conference Center | - ARROW (X3) | ALUM. CABINET ON CONC. BASE | - | EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH ARCHITECT). REFURBISH CABINET TO LIKE NEW CONDITION. AT TOP OF SIGN FACE, INSTALL YELLOW REFLECTIVE ALUMINUM PANEL WITH BLACK LETTERING "RESTRICTED CLEARANCE" (6" TALL x FULL CABINET WIDTH) (ALTERNATE 8: SALVAGE EXISTING SIGN, REMOVE FOOTING & RETURN TO OWNER) |
| EX17 (SIDE B) | Restricted Clearance Overflow Parking Physical Medicine Rehabilitation Services Main Hospital | - ARROW (X3) | ALUM. CABINET ON CONC. BASE | - | - EXISTING SIGN TO BE RELOCATED, (LOCATE IN FIELD WITH ARCHITECT) REFURBISH CABINET TO LIKE NEW CONDITION AT TOP OF SIGN FACE, INSTALL YELLOW REFLECTIVE ALUMINUM PANEL WITH BLACK LETTERING "RESTRICTED CLEARANCE" (6" TALL x FULL CABINET WIDTH) - (ALTERNATE 8: SALVAGE EXISTING SIGN, REMOVE FOOTING & RETURN TO OWNER) |
| EX18 (SIDE A) | Ambulance Only | - | ALUM. CABINET ON CONCRETE BASE | - | - EXISTING SIGN TO REMAIN IN PLACE REFURBISH SIGN TO LIKE NEW CONDITION PROVIDE (3) 24"x44" FACE PANELS TO MATCH EXISTING, MOUNTED OVER EXISTING MESSAGE |
| EX18 (SIDE B) | Ambulance Only | - | ALUM. CABINET ON CONCRETE BASE | - | VINYL LETTERING WITH NEW MESSAGE ON FACE PANEL. - EXISTING SIGN TO REMAIN IN PLACE. - REFURBISH SIGN TO LIKE NEW CONDITION. - PROVIDE (3) 24"x44" FACE PANELS TO MATCH EXISTING, MOUNTED OVER EXISTING MESSAGE VINYL LETTERING WITH NEW MESSAGE ON FACE PANEL. |
| EX19 | Overflow Parking | - | ALUM. CABINET ON CONCRETE BASE | - | - EXISTING SIGN TO REMAIN IN PLACE REFURBISH SIGN TO LIKE NEW CONDITION. |
| EX20 | - | - | ALUM. CABINET ON | - | - EXISTING SIGN TO REMAIN IN PLACE, EXISTING MESSAGE TO REMAIN. |
| EX21 | - | - | CONCRETE BASE ALUM. CABINET ON CONCRETE BASE | - | - CLEAN SIGN THOROUGHLY EXISTING SIGN TO REMAIN - NO CHANGE. |
| EX22 | - | - | ALUM. POST & PANEL | - | - EXISTING SIGN TO REMAIN - NO CHANGE. |
| 1 2 (NOT USED) | Overflow Parking - | ARROW - | ALUM. POST & PANEL | 1/L-102 - | - LOCATE IN FIELD WITH ARCHITECT |
| 3 | PED XING | CROSSWALK AND PEDESTRIAN SYMBOL | ALUM. POST & PANEL | 3/L-102 | - LOCATE IN FIELD WITH ARCHITECT (ALTERNATE 8: REPLACE THIS SIGN WITH STANDARD ALUMINUM PANEL ROADWAY SIGN.) |
| 4 (SIDE A) | Building 38 Physical Medicine Rehabilitation Services | ARROW | ALUM. POST & PANEL | 4/L-102 | - (ALTERNATE 6: REFLACE THIS SIGN WITH STANDARD ALGININGWI FAIRLE ROADWAT SIGN.) - LOCATE IN FIELD WITH ARCHITECT. - SIDE "B": Main Hospital (WITH DIRECTIONAL ARROW) - (ALTERNATE 8: REMOVE SIGN 4 FROM SCOPE OF WORK) |
| | | PARKING SYMBOL (BLUE) | ALUM. POST & PANEL | 5/L-102 | - LOCATE IN FIELD WITH ARCHITECT. |
| 5 | Building 39 Overflow Parking | FARRING STINDOL (BLUL) | 7.ESIVI. 1 SOT ATTIVEE | | |

| | PROPOSED MESSAGE | GRAPHICS / SYMBOLS | MATERIAL | SIZE | DETAIL | NOTES |
|------|---|--|--|--------------------------|------------------|---|
| TYPE | | | | | | |
| Α | VAN ACCESSIBLE | - ADA WHEELCHAIR SYMBOL (X2) - ARROW (X2) | ALUMINUM | (SEE DETAIL) | 3/W-651 | - PROVIDE "VAN ACCESSIBLE" MESSAGE AT APPLICABLE SPACES. |
| B1 | Reserved Physicians Only | - ARROW (X2) | ALUMINUM | (SEE DETAIL) | 3/W-651 (SIM.) | - |
| B2 | Reserved Executive Staff | - ARROW (X2) | ALUMINUM | (SEE DETAIL) | 3/W-651 (SIM.) | - CONTRACTOR TO COORDINATE SPECIFIC TITLE (BOTTOM TWO WORDS) WITH ARCHITECT PRIOR TO FABRICATION. BID TO INCLUDE FULL MESSAGE WITH 20 LETTERS IN BOTTOM TWO WORDS. |
| | Associate Director | | | | | |
| B3 | No Parking Violators Will Be Towed At Owner's Expense | "P" with strikethrough | ALUMINUM | (SEE DETAIL) | 3/W-651 (SIM.) | - COORDINATE MOUNTING HEIGHT AND FINAL LOCATION IN FIELD WITH ARCHITECT. |
| B4 | (NOT USED) | - | - | - | - | - |
| B5 | (NOT USED) | - | - | - | - | - |
| D | (SEE DETAIL) | (SEE DETAIL) | ALUMINUM | (SEE DETAIL) | 10/W-651 | - WALL MOUNTED - COORDINATE FINAL LOCATION IN FIELD WITH ARCHITECT. |
| E | EXIT | - ARROW (x2) | ALUMINUM | (SEE DETAIL) | 6/W-651 | - COORDINATE MOUNTING HEIGHT AND FINAL LOCATION IN FIELD WITH ARCHITECT. |
| F | (NOT USED) | - | - | - | - | - |
| G | (SEE DETAIL) | (SEE DETAIL) | ALUMINUM | 18" X 18" | 1, 2, 4, 5/W-651 | - DETAIL/MESSAGE/GRAPHIC ASSOCIATED WITH APPLICABLE LEVEL WALL MOUNTED COORDINATE MOUNTING HEIGHT AND FINAL LOCATION IN FIELD WITH ARCHITECT. |
| Н | (SEE DETAIL) | (SEE DETAIL) | ALUMINUM | 2" X 2" | 1, 2, 4, 5/W-651 | - PROVIDE (1) LEVEL INDICATOR SIGN AT EACH ELEVATOR CAB CALL BUTTON, FOR A TOTAL OF (2) 2" X 2" SIGNS IN EACH ELEVATOR CAB COORDINATE EXACT SIZE AND PLACEMENT WITH ELEVATOR CAB BUTTON LAYOUT WITH ARCHITECT DURING SHOP DRAWING REVIEW. |
| J1 | (SEE DETAIL) | - ELEVATOR CAB WITH PEOPLE, - ARROW (X2) | DIMENSIONAL ALUMINUM PLATE | (SEE DETAIL) | 7/W-651 | - COORDINATE FINAL MOUNTING LOCATION IN FIELD WITH ARCHITECT ALL CONNECTIONS AND SUPPORTS ARE TO BE HIDDEN. |
| J2 | (SEE DETAIL) | - CROSSWALK WITH PERSON WALKING | DIMENSIONAL ALUMINUM PLATE | (SEE DETAIL) | 8/W-651 | - COORDINATE FINAL MOUNTING LOCATION IN FIELD WITH ARCHITECT ALL CONNECTIONS AND SUPPORTS ARE TO BE HIDDEN. |
| K | -CAMPUS DIRECTORY -YOU ARE HERE -(BUILDING & STREET LABELS) | - VA LOGO -CAMPUS MAP -ARROW | ALUMINUM | 18" X 18" | - | - FULL COLOR DIRECTORY WITH BUILDING LABELS, STREET LABELS AND OTHER MISC. SITE ELEMENTS OWNER WILL PROVIDE DIGITAL FILE, FOR CONTRACTOR'S USE. |
| L | Ramp Down | - ARROW | ALUMINUM | (SEE DETAIL) | 6/W-651 (SIM.) | - COORDINATE MOUNTING HEIGHT AND FINAL LOCATION IN FIELD WITH ARCHITECT. |
| M1 | ENTER | (SEE DETAIL) | DIMENSIONAL ALUMINUM PLATE | (FUNCTION OF MESSAGE) | 11/W-651 (SIM.) | - CHANNEL SET DIMENSIONAL LETTERS MOUNT ON TOP OF CANOPY COORDINATE FINAL MOUNTING LOCATION IN FIELD WITH ARCHITECT. |
| M2 | EXIT | (SEE DETAIL) | DIMENSIONAL ALUMINUM PLATE | (FUNCTION OF MESSAGE) | 11/W-651 | - CHANNEL SET DIMENSIONAL LETTERS MOUNT ON TOP OF CANOPY COORDINATE FINAL MOUNTING LOCATION IN FIELD WITH ARCHITECT. |
| N | (SEE DETAIL) | (SEE DETAIL) | ALUMINUM | (SEE DETAIL) | 15/W-651 | - CONSTRUCTION, COLOR AND ATTACHMENT METHOD TO MATCH EXISTING CAMPUS SIGN PROGRAM |
| P | (VARIES) | (NONE) | PLASTIC LAMINATE PLATE WITH ROUTED MESSAGE | 2" X 8" | - | - MESSAGE IS ASSOCIATED WITH ROOM USE AND IS TO BE SELECTED BY OWNER PRIOR TO FABRICATION. - COLOR TO MATCH DOOR FRAME FINISH. - MESSAGE TO BE CONTRASTING COLOR. - ATTACH TO "OUTSIDE" FACE OF DOOR FRAME HEAD, CENTERED ON OPENING. UTILIZE CONCEALED FASTENERS. |
| Q | CLEARANCE 8'-2" | - CROSS HATCH AT NON- MESSAGE AREA | (SEE DETAIL) | (SEE DETAIL) | 14/W-651 | - FINAL CLEARANCE HEIGHT TO BE DETERMINED BY OWNER PRIOR TO SIGN FABRICATION BID SHALL INCLUDE CONTRACTOR FIELD VERIFICATION OF MINIMUM CLEARANCE HEIGHT GARAGE AFTER ALL ELEMENTS ARE CONSTRUCTED AND INSTALLED, (INCLUDING STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, AND ARCHITECTURAL). |
| R | Elevator | - ELEVATOR SYMBOL | ALUMINUM | 30" DIAMETER | 6/W-651 (SIM.) | - ROUND FACE PLATE ATTACHED TO SUPPORT POSTS ANODIZED ALUMINUM FINISH DIAMOND GRADE REFLECTIVE FILM ON ENTIRE FACE, BLACK VINYL GRAPHICS/TEXT RE: DETAIL 7/W-651 FOR SYMBOL REFERENCE. |
| U | Ramp Up | - ARROW | ALUMINUM | (SEE DETAIL) | 6/W-651 (SIM.) | - COORDINATE MOUNTING HEIGHT AND FINAL LOCATION IN FIELD WITH ARCHITECT. |





Date

Grand Junction VA Medical Center 2121 North Avenue Grand Junction, CO 81501



ARC HITEC TURE: **CooverClark**



TRAFFIC/STRUCTURE: PROJECT LEADER/ARCHITECT: GUIDON

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| | | | | ACO | Over Clark |
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| Д | DDENDUM # | 1 FOR | CONST | RUCTION | |
| Drawing Title SIGNAGE SCHEDULE | Project Title PARKING STRI | JCTURE | | Project Number 12.1042 Building Number Bldg-39 | OFFICE OF FACILITIES MANAGEMENT |
| Approved for Design Concept: John Bartman John.Bartman@va.gov 970-263-5016 | Date 3/10/2014 | On VA Checked By: Checker | Drawn By: Author | Drawing Number $W-652$ | VA Project Number 575-206 Department of Veterans Affairs |